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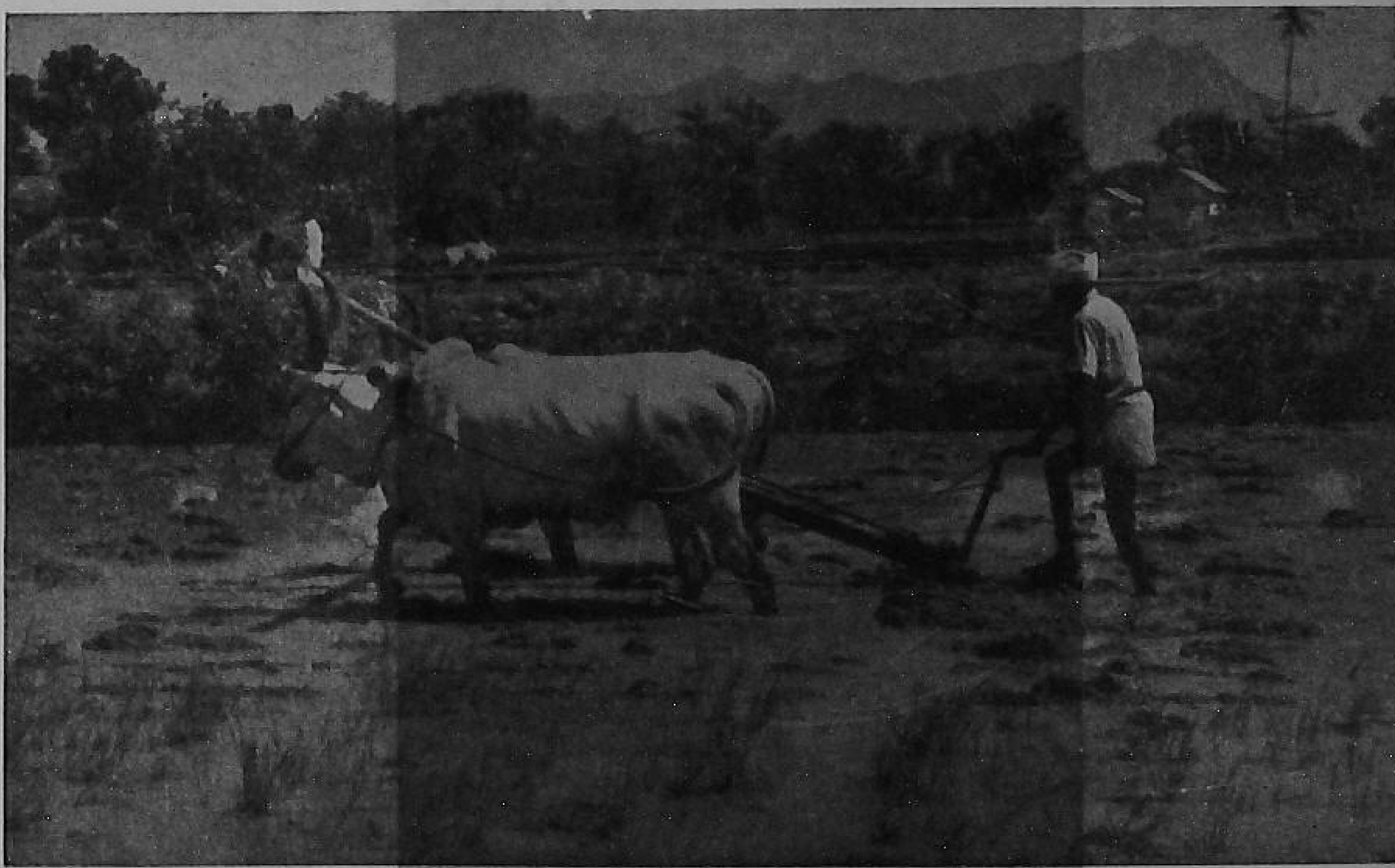
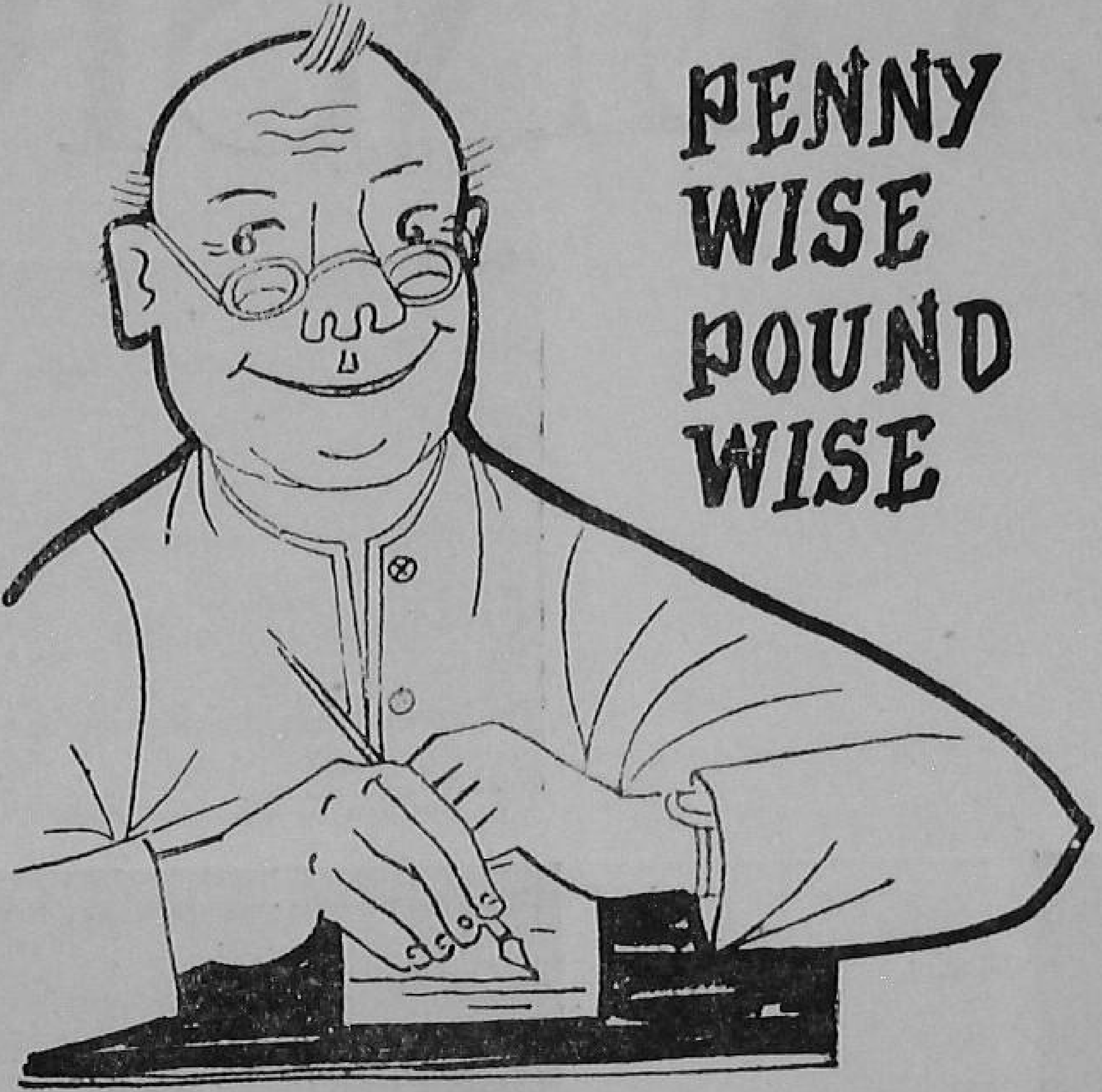


THE FARM AND FARM HOME MAGAZINE

July, 1962



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EXTENSION THE FARM AND FARM HOME MAGAZINE

Vol. III JULY 1962 No. I

CONTENTS

**FOR FARMERS**

More crops, more profits from rice lands 2

Baroda Hoe 5

He owes it all to potatoes 6

A new mango tree for old 10

The special care the pregnant cow needs 13

Tips on how to store fertilizer 14

Diseases decide your poultry profits 16

Control the castor semilooper 19

Planting trees this monsoon ? 20

You should grow parwal too 22

**FOR HOME-MAKERS**

A new frock from an old skirt 25

*PICTURES ON THE COVER*

*In agriculture, it pays to do the right thing in a right way and at the right time. If you are a rice grower, see that you obtain a good puddle before transplanting seedlings. And to get the most out of your land, remember to follow good crop rotation ; rice—cotton is one such rotation. Also, now is the time to plant some trees, whether for shade or for fuel. But, do not forget to select the right ones.*

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**DIRECTORATE OF EXTENSION, MINISTRY OF FOOD AND AGRICULTURE, GOVT. OF INDIA, NEW DELHI**

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# MORE CROPS, MORE PROFITS FROM RICE LANDS

By M. V. VACHHANI, M. S. CHAUDHRY and M. V. RAO

IN MOST of our rice-growing areas, rice is taken after rice, the land being kept fallow between the two crops. Farmers do not follow crop, rotations as they do in dry land cultivation because of want of irrigation facilities and poor control on drainage.

However, in the well-drained unlands and where soils can keep moisture in them, a catch crop of a quik-growing legume is taken. And where there is good supply of irrigation water, either another crop of rice or a *rabi* crop is raised.

The Central Rice Research Institute at Cuttack, Orissa, tried to find out what crops could be grown after rice and what effect this would have on the soil.

A short-duration rice was grown in the main season, and harvested in October. Land was next made ready, and various crops were tried.

Itw as found that a rice crop that followed groundnut and a mixture of *mung* and *pillipesara* gave higher yields. Growing groundnut after rice gave the best profits. Cotton after rice was the next best from the profit points of view.

Try *Pillipesara—mung* mixture before rice and see what a good crop of rice you get

#### LEGUME-RICE

Legumes not only give some profits from their seed, but also increase the fertility of the soil. What legume to grow depends on soil and other conditions, but gram, horse-gram and black-gram are the most suitable ones.

In the experiment at the Institute, a mixture of *mung* and *pillipesara* was grown, the *mung* allowed to seed and the *pilli pesara* buried in the soil as green manure. This mixture was found to have good effect on the rice crop that followed, resulting in increased yields.

#### RICE-GROUNDNUT

In south and east India, where the winter is not very severe, growing groundnut after rice, where irrigation is possible, is found profitable. In the experiment also, such a rotation gave very good results, the groundnut yielding 2,086 kilograms of pod and the rice crop which followed yielding 3,152 kilograms of grain per hectare.

#### RICE-COTTON

A short-duration medium staple cotton is another crop that is grown after paddy in the south and east India. In the Cuttack experiment, *P. 216 F*, an early maturing variety (sowing in November and last picking in May), gave 1,174 kilograms per hectare of seed cotton.

Hence, where irrigation is assured, farmers can grow groundnut or cotton to get a better income from their land.

#### DOUBLE RICE CROP

In the South, double cropping of rice is practised where canal water is available or rainfall is assured from the monsoons. Here, production can be increased if a suitable green manure crop is raised in-between the two rice crops.

Make your farm pay more—grow cotton after rice

Experiments at the Institute showed that by growing *mung* or *dhaincha* between the two rice crops, a total yield of more than 4,600 kilograms of paddy per hectare could be obtained.

#### RICE-JUTE

Jute-rice is another rotation already followed by some farmers, as jute, like rice, can grow in water-logged fields. Jute can be sown in April and harvested in August-September. A rice crop can be raised next. At the Institute, the jute crop before rice yielded 975 pounds of fibre. Rice variety *T. 1242* of 160 days duration, which followed, gave over 2,500 pounds per acre.

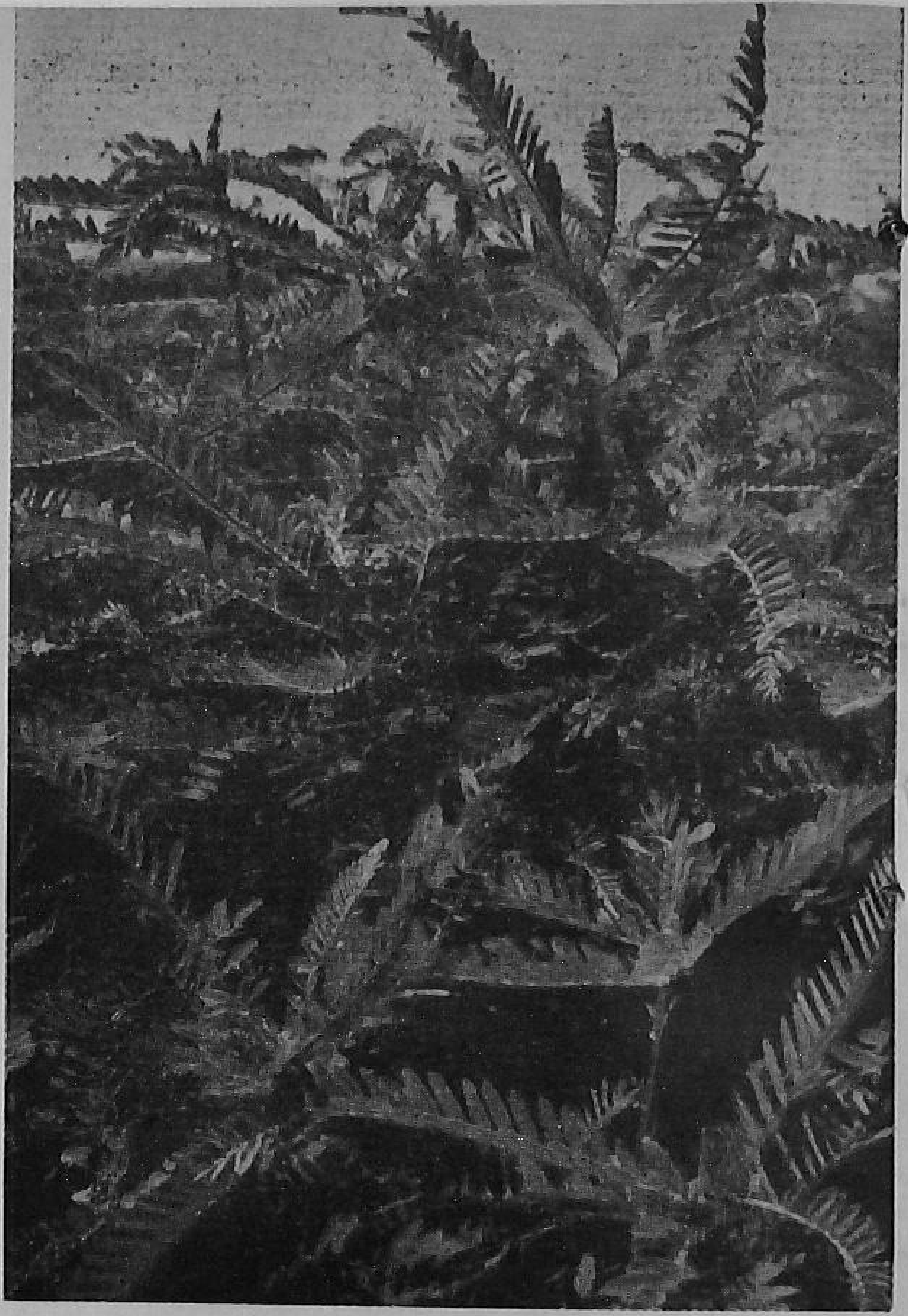
#### THREE RICE CROPS

Where soil is well-drained, it is even possible to grow three crops of rice in a year.

To get good results, farmers should plant the first crop of a short-duration variety in the middle of March to be harvested by the first week of June.

This they should follow with a medium-duration variety and grow it in the main season of July to December. The third crop they have to sow by the middle of December which will be ready for harvest in April.

This way, a yield of over 10,000 kilograms of paddy can be obtained from an acre, provided judicious manuring of crops is done.



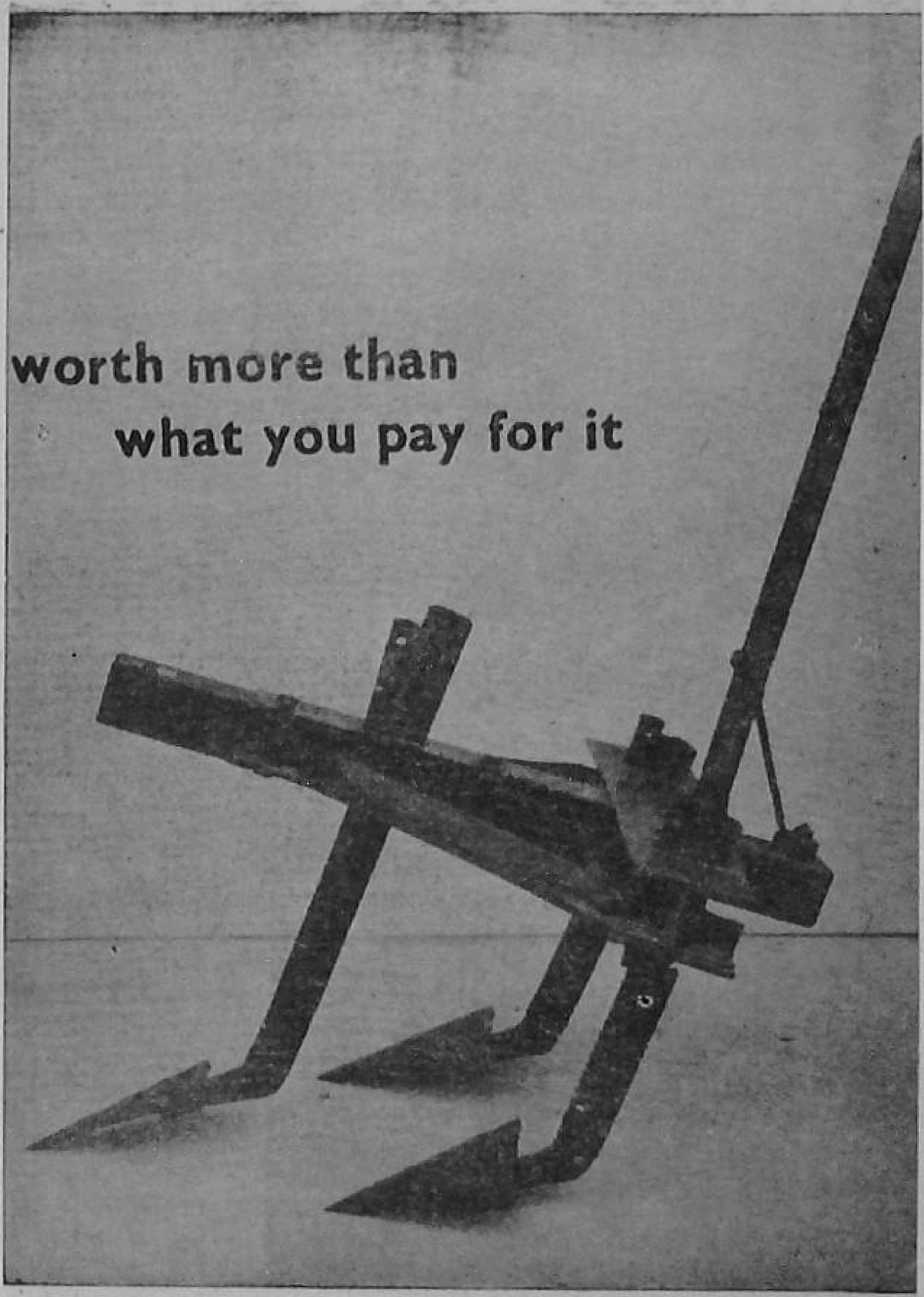
If you are taking two crops of rice a year, grow *dhaincha* in-between the crops

Rice—Jute is rotation which you can follow even in low-lying water-logged areas

Thus, results of experiments show that where irrigation facilities are available, it is better to cultivate the land than to leave it fallow. The kind of crop to be grown depends upon the soil and climate.

1. Where you can plough your land just after you have harvested early or medium-duration paddy, raise a crop of groundnut or cotton.
2. Where the conditions do not allow you to raise these crops, try raising two crops of rice or follow a jute-rice rotation.
3. Where the soil is well-drained, see if you can not raise three crops of rice by adopting judicious manuring Schedules and improved cultural practices.

# The BARODA HOE worth more than what you pay for it



By D. N. KHERDEKAR

UNLIKE the farmers in north India, those in the Deccan use *douras* or small-sized *bakhars* or blade-harrows to intercultivate their crops like cotton and groundnut, the main crops sown in lines. They attach two to three such *douras* to a long yoke and work them with a pair of bullocks. They train the animals in such a way that the *douras* are worked in-between the crop rows with no damage to the plants. This way, they finish weeding quickly.

But even these farmers find it difficult to work the *douras* when the black cotton soil becomes dry and hard and when last two hoeings are to be given. The bladed harrows cannot get into such a soil.

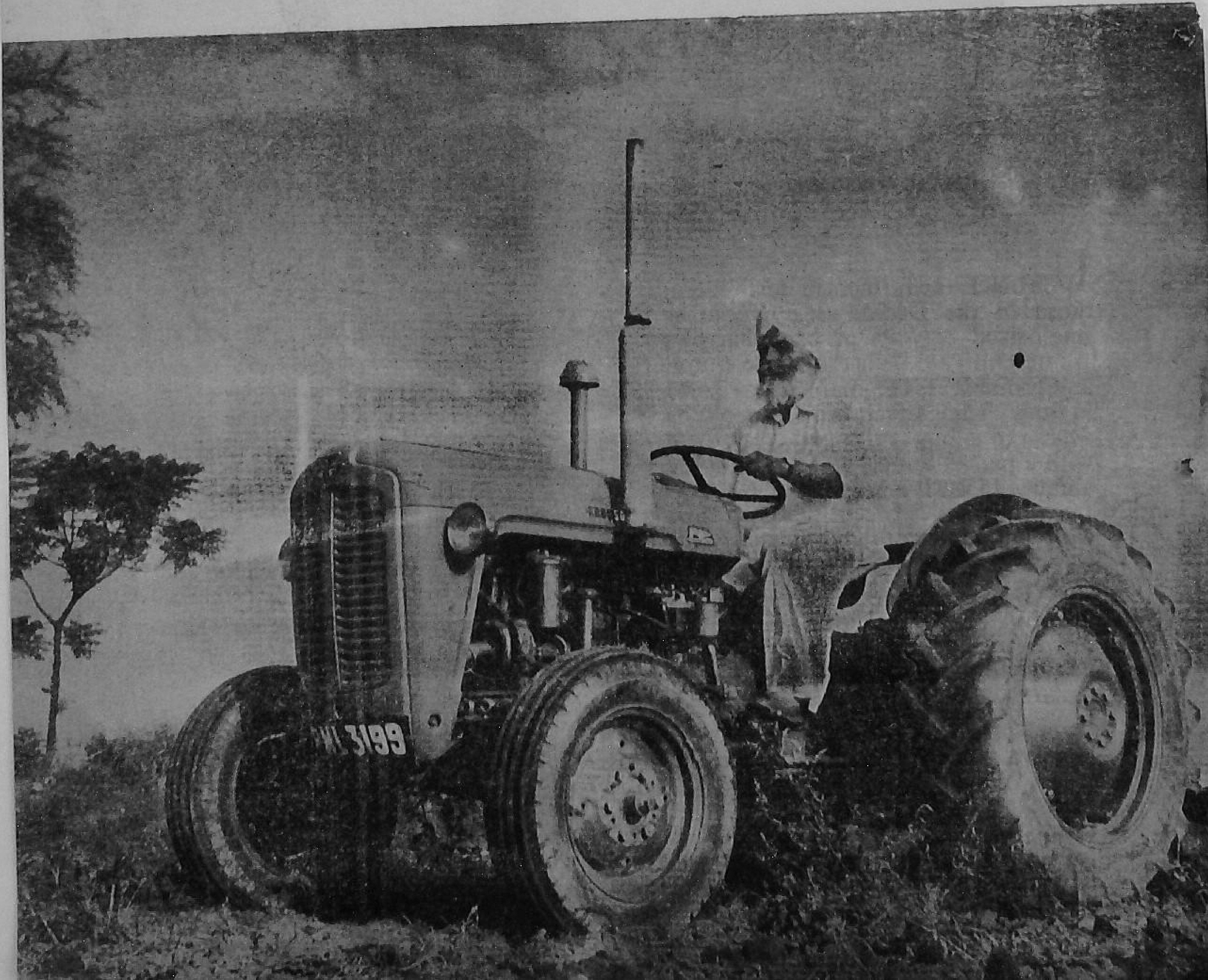
Research was carried out to design a hoe which can work in hard soils. As a result, the Akola hoe was designed. A further improvement of this is the Baroda hoe. In this, the distance between the tines can be adjusted according to the need. The tines are fixed to the steel body by means of wedges. The share points are triangular and sharp. These can be taken out and resharpened.

In a medium soil, two such hoes can be yoked to a pair of bullocks and worked. But in very hard soils, only one hoe can be pulled by a pair of bullocks.

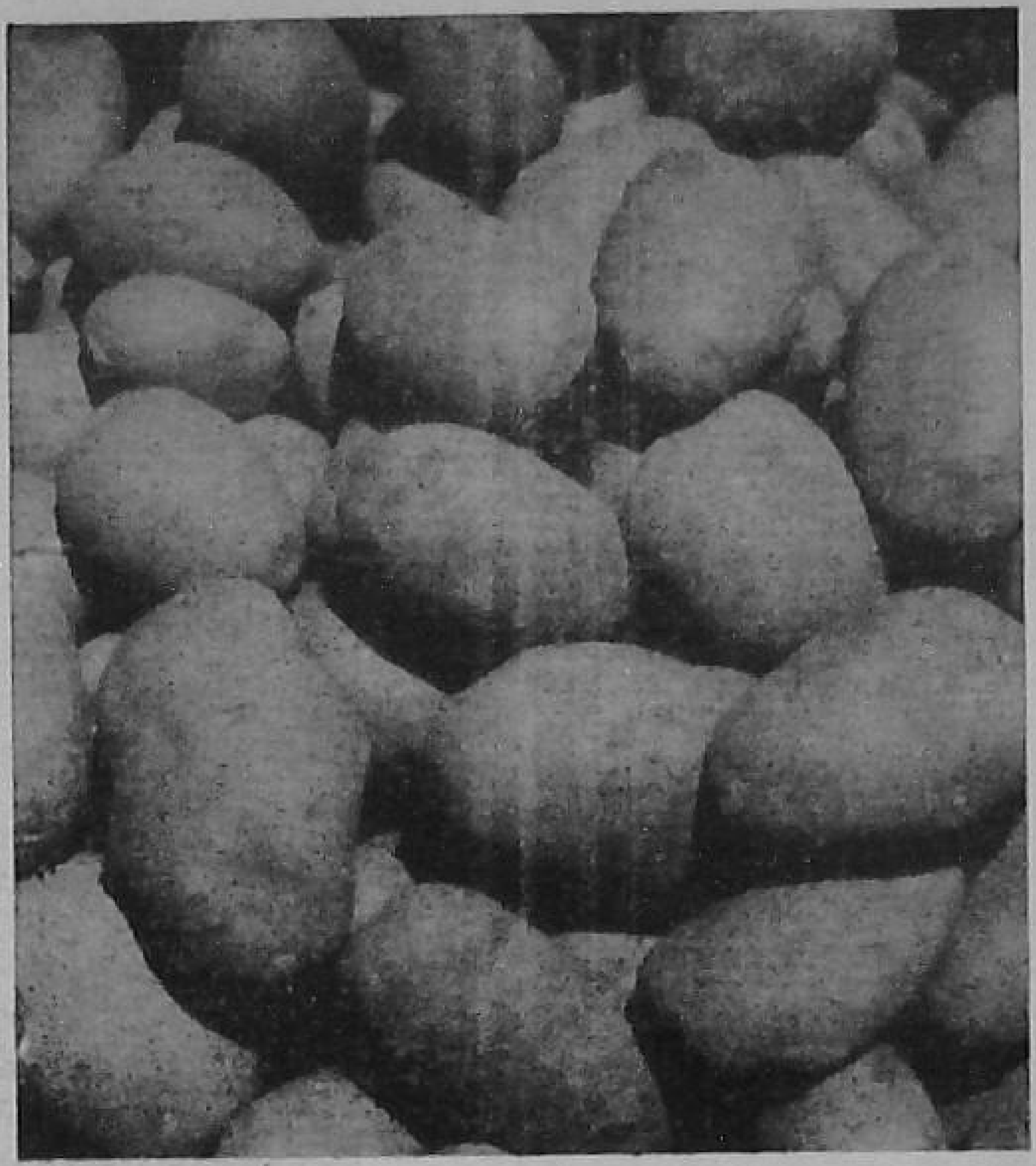
A Baroda hoe costs about 30 to 40 rupees, and can be manufactured by a village blacksmith.

If you are in the North and sow your crops in lines, you will find the Baroda hoe giving you back much more than its worth in money.

He owes it all



# to Potatoes



By G. S. SANDHU

FARMER Gurmukh Singh of Salem Tabri, near Ludhiana, Punjab, today earns a profit of 35,000 rupees every year from his 26-acre farm. Eight years ago he was earning just enough to make both ends meet by growing berseem on his eight-acre farm. "It is all due to potatoes," Gurmukh Singh says.

It was in 1954, that his friend Gurmel Singh (Pilot Project Officer, Ludhiana) took him to Dhogri Farm and showed him how potatoes are cultivated, and gave him enough seed of *Military Special* and *Darjeeling Red Round* to plant an acre on an experimental basis.

The success of the trial so impressed Gurmukh Singh that he put all his eight acres under potato subsequently and earned enough profits to add another nine acres to his holding in 1957.

Since then he has purchased six more acres, making his holding 26 acres, on which he grows potatoes, tomatoes, brinjals and other vegetables.

Gurmukh Singh is a staunch believer in the Punjabi adage, *kheti khasman seti* (agriculture pays to the owner cultivator). He himself ploughs the land with his tractor (he was able to purchase the tractor only after he started cultivating potatoes) and supervises personally all other work on the farm.

He takes two crops of potatoes in a year. The first, the autumn crop, he sows in the middle of September and harvests it in the third week of November. He puts all his 26 acres under the autumn potatoes.

Like potatoes, other crops too receive his close attention . . .

. . . right from the time they are sown till they are harvested and graded for marketing

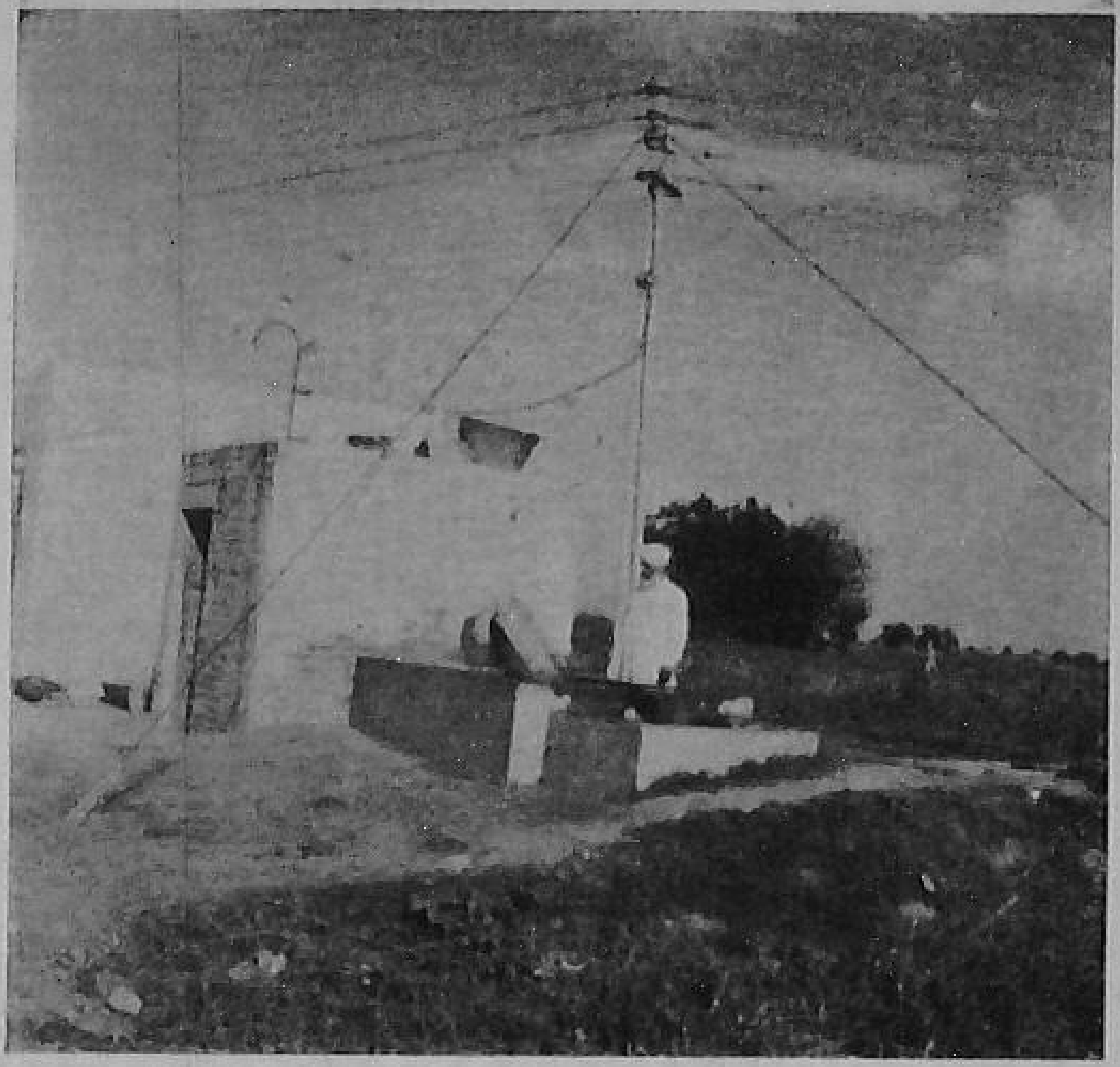
The second, spring crop of potato, is grown on 13 acres. He sows the crop in the first week of January and harvests in the beginning of May. The rest of the area he puts under tomatoes, brinjals and other vegetables.

For potato, he ploughs his field with the tractor, and then planks it. He uses self-grown seed of *Darjeeling Red Round* and *Military Special* varieties at the rate of 18 to 20 maunds per acre. He sows only selected sprouted seed potatoes 1¼ to 1½ inches in diameter on ridges 1½ to 1¾ feet apart with a spacing of 6 to 9 inches.

Gurmukh Singh gives a basal dressing of 16 cartloads of compost per acre if he has not green manured his fields. If, however, he has not applied compost he uses 200 pounds of superphosphate per acre. He then drills or broadcasts 225 pounds of ammonium sulphate at the time the crop is sown. For the early varieties he uses potassium sulphate also which he drills at the time of sowing. He applies another 225 pounds of ammonium sulphate as top-dressing at the time of earthing up when the plants are nine inches high. He hoes the crop whenever necessary.

Gurmukh Singh gives the first irrigation immediately after sowing the crop, and irrigates after every 10 days or so, if there are no rains. In all he gives 10 to 12 irrigations, taking care to see that the ridges are not flooded. He finds his tubewell (he had a *rahet* when he was growing berseem) very helpful in this.

To protect his crop from insects and pests, he sprays 0.1 per cent DDT or 0.02 per cent 'Endrin' twice. The first spray he gives immediately after the germination of the crop, and the second 15 days later. In the case of *Darjeeling Red Round*, which is a late variety, he gives a third spray too. He gives two sprayings of Bordeaux mixture to prevent the attack of late blight.



The tubewell on his farm, helps him irrigate his crops in time

He harvests on an average 250 maunds of potatoes per acre.

#### OTHER VEGETABLES

Gurmukh Singh transplants the brinjal and tomato seedlings after they are five weeks old. He adopts a spacing of 3½ feet by 1½ feet for tomato and 2 feet by 1½ feet for brinjals. He manures the field with 30 cartloads of compost and 250 pounds of ammonium sulphate per acre.

Gurmukh Singh is very careful about grading his produce before marketing, which, he says, pays him well. Since his farm is only about three miles away from Ludhiana, he is able to send fresh vegetables to the market every day.

Last year he sold farm produce worth 70,000 rupees, to grow which he had spent 35,000 rupees. He could thus earn a net profit of 35,000 rupees.

# A NEW MANGO TREE FOR OLD

By P. S. PARSAI

WHEN some of your mango trees get old and start giving poor yields, or start producing poor quality fruits, don't cut them off. Give them a new life by top-working them.

By top-working, you can also turn the inferior trees into superior ones. You also top-work to replace the damaged branches of a tree.

For top-working, you can adopt crown-grafting, side-grafting or budding, or all of them.

The best time for crown-grafting is the rainy season when there is plenty of humidity in the air. Better do the budding in spring in the plains and in the summer months in the hills. In the plains, budding gives equally good results in June, especially if it is done after a good pre-monsoon shower.

Here are some hints on top-working the mango trees.

Select the trees which yield small and stony fruits, containing very little juice or juice of unpleasant taste or flavour.

Also mark the trees known for their high yields, quality fruits and resistance to pests and diseases.

Cut the branches of the trees to be top-worked. The height at which the branches should be cut will depend on the size of the trees. Small trees which have not started bearing can be cut at a height of nearly four to five feet from ground level. On big, fruiting trees, cut branches from the places where the tree is six to nine inches in diameter. In the case of fruiting trees, take care to keep some lateral branches nearest to the ground. These will serve as nurse limbs and provide shade to the trunk. You can remove these branches after a few years when the new variety (or varieties) used for top-working develops enough crown.

#### BUD-WOOD SELECTION

For crown and side-grafting, select shoots of six to nine inches in length from terminal mature shoots of the current season's growth. If, however, the length of of the current year's growth is not enough, add previous year's growth.

But for budding use shoots from the current year's growth only. Such shoots will be found on young vigorous trees. To induce growth of such shoots on old and poor trees, prune one or more branches of these trees a few months earlier to shoot selection.

Next, remove the leaves from the selected shoots with the help of secateurs, leaving the petioles attached to shoots. Do this about 10 to 15 days before you actually need the shoots for grafting or budding. During this period the petioles that were left will drop down and thus the shoots will be without any leaves, ready for use.

For grafting, use the shoots in which the apical buds have swollen but have not actually started growing. The shoots in which the apical buds are found in an actual growth stage are not suitable for grafting. Such shoots, however, can be used for budding.

#### CROWN-GRAFTING

If you are following crown-grafting method for top-working, do it immediately after the trunk or the branch is cut.

With the point of a strong knife, make two vertical cuts at a distance of half an inch to one inch starting from the cut surface downwards to a length of three to four inches. This way the bark will be completely cut.

Separate out the bark from the wood (by inserting the ebony end of a budding knife or some other pointed material between the bark and the wood), but put it back in its original position.

Next, make two slanting cuts in the bud-wood, one about three to four inches and the other about half an inch to one inch in length to give a wedge shape. See that you make the cuts, even the longer one, in one stroke only. It is important.

Then insert the wedge between the bark and the wood keeping the longer surface pointing inwards.

Two, three or more grafts can be made this way, depending on the thickness of the trunk or branch.

Tie the grafts firmly but not very tightly with a string used for stitching gunny bags. Cover the cut surfaces with grafting wax (prepared by boiling together three parts of resin, two parts beeswax and one part cocount or linseed oil). Apply the wax when it is just warm and not very hot.

#### SIDE-GRAFTING

In case of side-grafting, for separating the bark from the wood and for inserting the grafts in the sides of the trunk or branches, make the two verticle cuts in the bark and join them by a third horizontal cut on the upper side. In thic branches and trunk where it is difficult to insert any pointed material for lifting the bark, remove a triangular patch of bark above the horizontal

A top-worked mango tree will bear as well as a new tree

cut. You put back this patch after you insert the bud-wood.

Trim the one end of the bud-shoot into a wedge shape and push it between the bark and the wood.

#### BUDDING

Budding is done on new shoots that grow from the pollarded trunks and branches. It should be done quite close to the trunks and branches, and taken up as soon as the shoots are mature. There will be many shoots growing from the pollarded branches but do the budding only on some selected ones which are properly spaced. Rub off the remaining shoots as soon as they appear.

Make one vertical cut on the bark of the shoot and loosen the bark with the ebony end of the budding knife.

Remove shield-shaped buds without wood from the defoliated bud-shoots and insert in-between the bark and the wood. Use a tape (prepared by passing strips of cloth through a hot mixture of melted paraffin and resin—mixed in proportion of 3 to 1) for tying the buds.

To get best results, use bud sticks soon after they are removed from the parent trees. You can, however, store for two to three days in damp gunny pieces or in polythene film.

#### AFTER-CARE

Whatever method you have taken up for top-working, follow up with these after-cares:

Usually, crown and side-grafts grow very vigorously. Protect these by providing supports, from being blown away by storms.

Remove the string used for tying when you find the same is girdling the graft union.

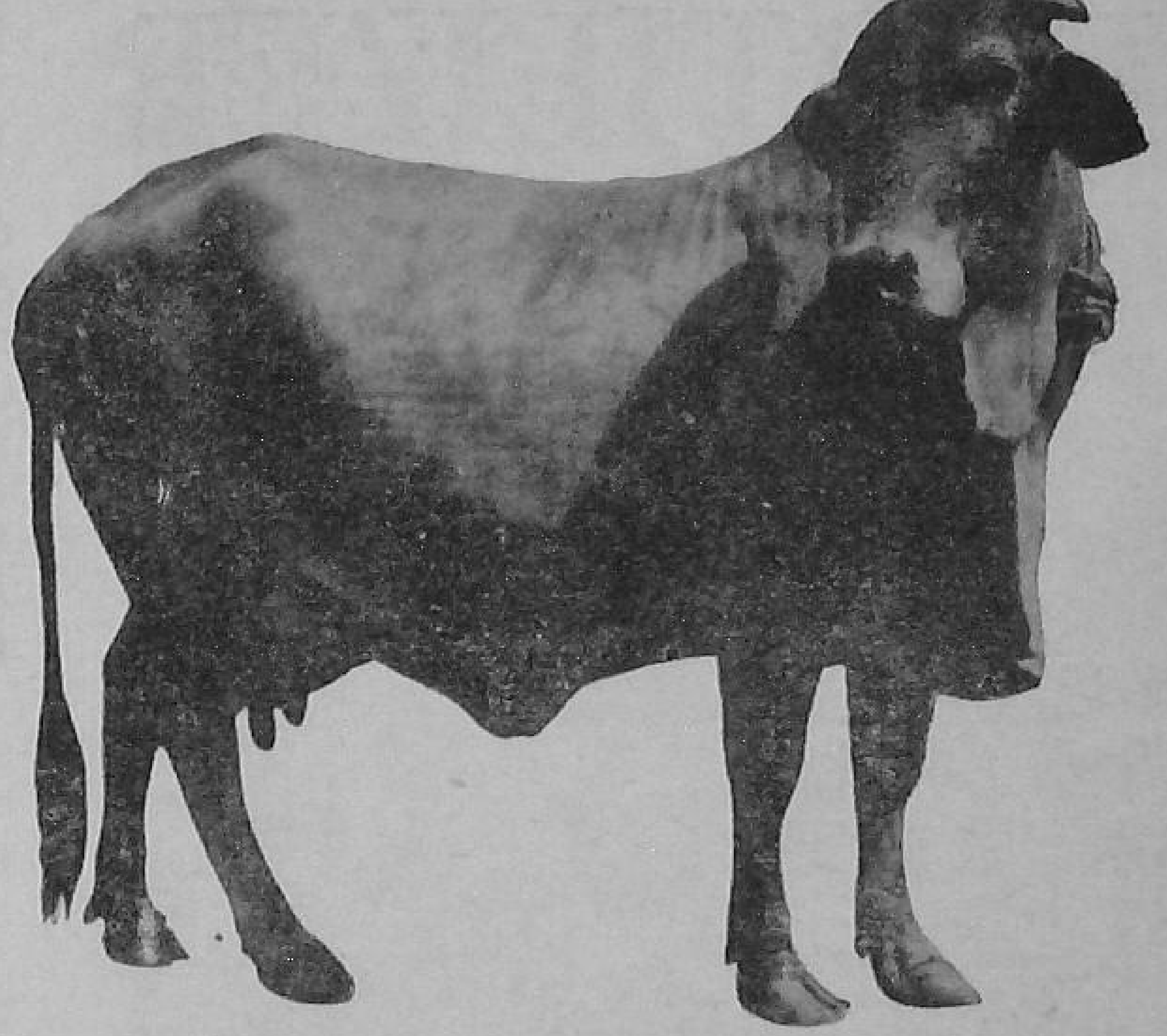
Provide a shade during summer on the south-west side to protect the bark from scalding.

Keep a watch on the appearance of stem-borer, which you can find out by the presence of sawdust-like powder on the ground. Search out the grubs by peeling off the bark, and kill. If you find holes in the wood it means the grubs have already entered the wood. Use diesel oil or petrol to destroy them.

When a thick branch is cut, it takes many years for the new bark to cover the cut surface. The central portion of the wood may start rotting, making trunks and branches hollow. This shortens a tree's life. Prevent this by covering the cut surface with a plaster (prepared by mixing three parts of sand and one part of cement) during the rainy season.

# THIS IS THE SPECIAL CARE
## the pregnant cow needs

By HARBANS SINGH



ANIMALS need special care, especially during the last few months of pregnancy. You know that the average pregnancy period of a cow is 280 days. Discontinue milking the pregnant cow about six to eight weeks before the expected date of her calving. This will give her necessary rest and will enable her to produce more milk after calving.

Always treat the pregnant animal kindly and with sympathy and never excite her. Don't make her walk long distances, run fast, get frightened or allow to fight with other animals. Observe regular hours of feeding and grazing.

House your cow comfortably and protect her from extremes of climate. Don't allow her to mix, or tie her with animals that have aborted.

A week before the cow is expected to calve, house her separately from the rest of the herd.

Watch the cow carefully as the calving time approaches. Generally, you will see the following symptoms in her.

- Appetite is lost or reduced.
- Udder is increased in size.
- The genital opening is congested and enlarged.
- Yellowish mucous comes out of the genital opening.
- The animal urinates frequently in small quantities.
- Depressions appear near the pin bones.
- The animal shows signs of restlessness, by frequently waving the tail and by lying down and standing up at short intervals.
- The animal tries to be away from others.

Before calving, give her a light and easy-to-digest food. After calving, bring her to normal rations gradually in ten to twelve days. Make a salt-lick available to the pregnant cow, so that she might lick it when she desires. You may instead, add a chhatack of salt to the daily ration. Provide her with a bed of clean straw.

During the act of calving, allow nature to have its own course. Do not interfere. If the cow has any difficulty, get a veterinary surgeon or an expert herdsman to help her out.

Give a warm bran mash to the cow after she has calved. Allow her to lick the calf. Let the calf get up on its own and run about. A healthy calf should be up in 20 to 30 minutes. If it does not, help it to stand up.

Watch for the falling of of the after-birth. Normally, the after-birth should come out within five to six hours of calving. In case it does not fall within 24 hours, seek the help of a veterinary surgeon.

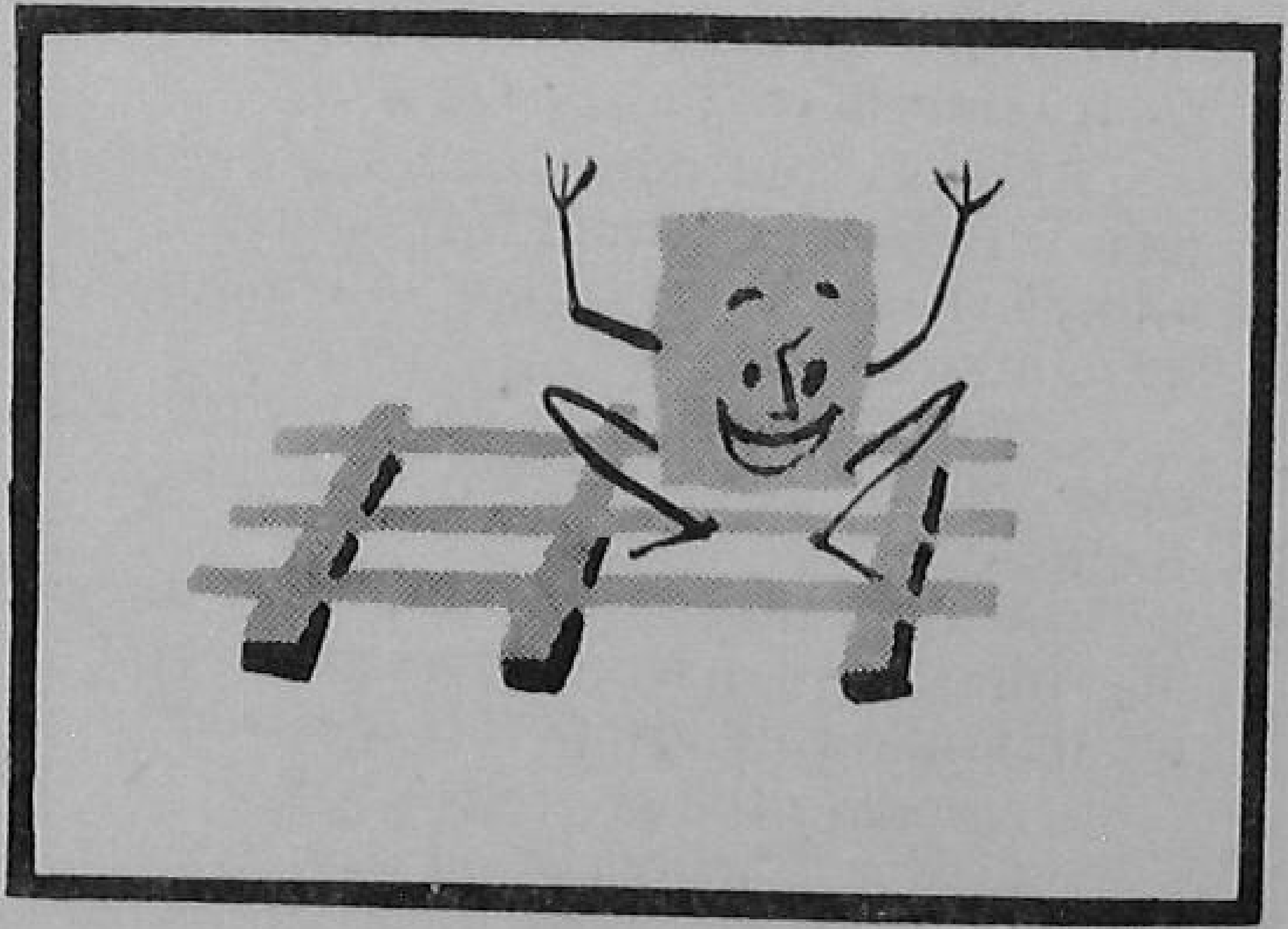
TIPS ON

# HOW TO STORE YOUR FERTILIZER

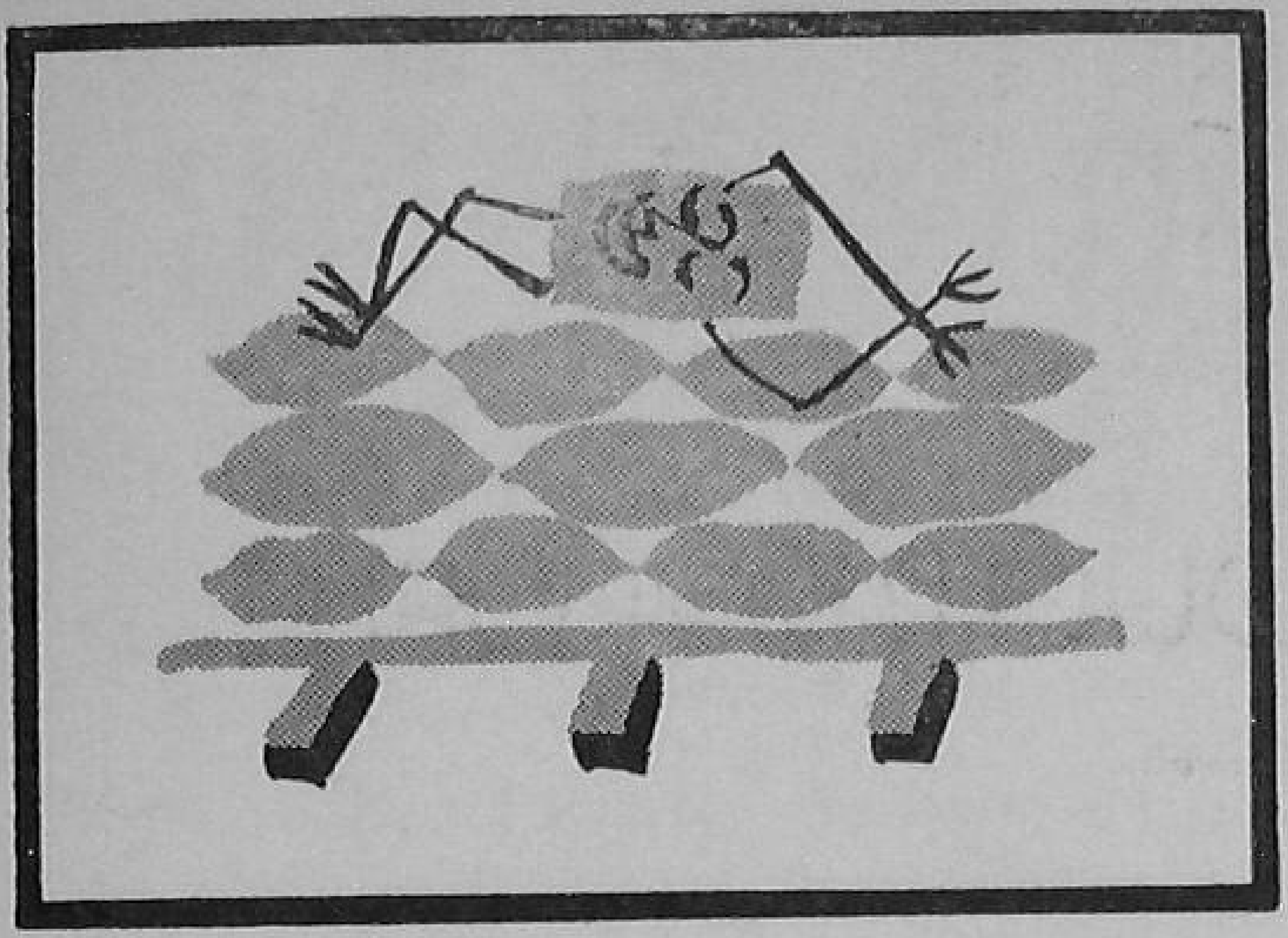
YOU must be buying your fertilizer quite ahead of time so that you may have it readily at hand when you need it.

This makes it necessary for you to store your fertilizer. And it is important that you store it carefully so that the plant foods contained in it may not be lost. Here are a few tips on how you can store fertilizer properly.

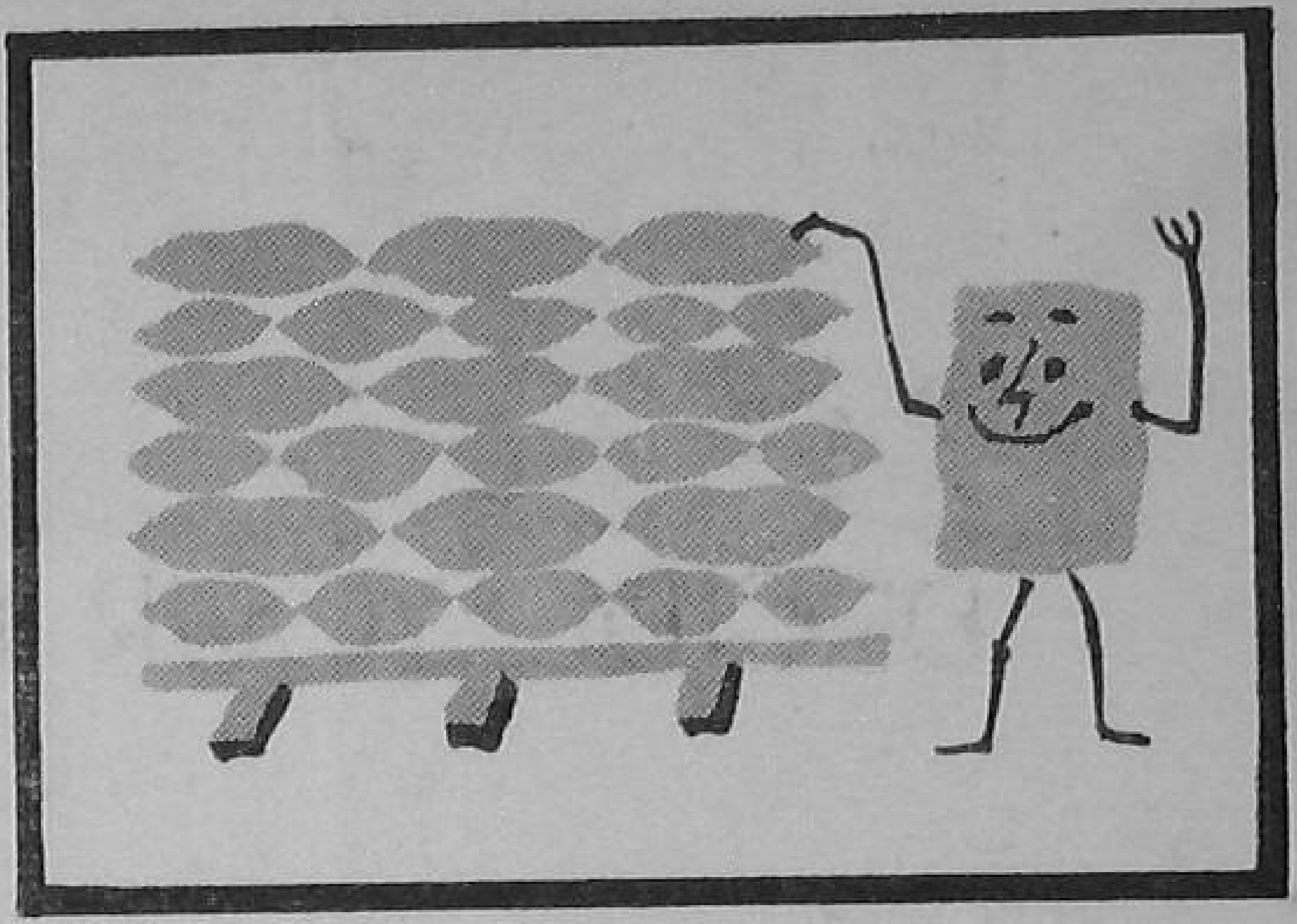
• Store the fertilizer bags in a dry and leak-proof godown. Otherwise, the rain water will soak the bags and the fertilizer will get wet. As a result, the bags will break, and plant foods will be lost from the fertilizer. Such a fertilizer cannot also be applied to the field properly.



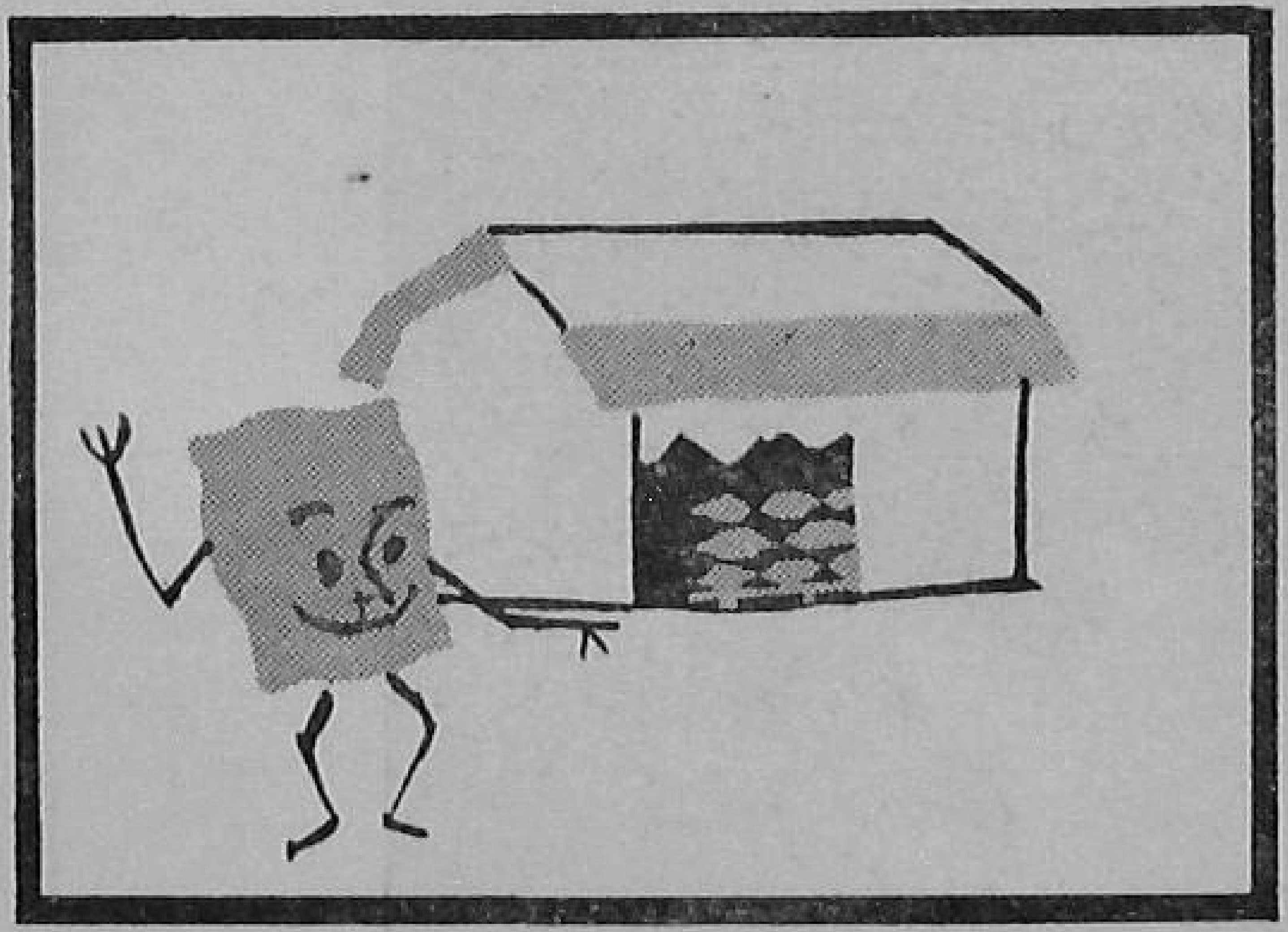
• Keep the fertilizer bags off a damp floor. Such a floor will make the fertilizer pick up moisture. Hence, place bricks, cement blocks or four-square-inche wood pieces about two to three feet apart on the floor. Over this, lay wooden battens or bamboo poles in the opposite direction, thus giving a space between the bags and the floor.



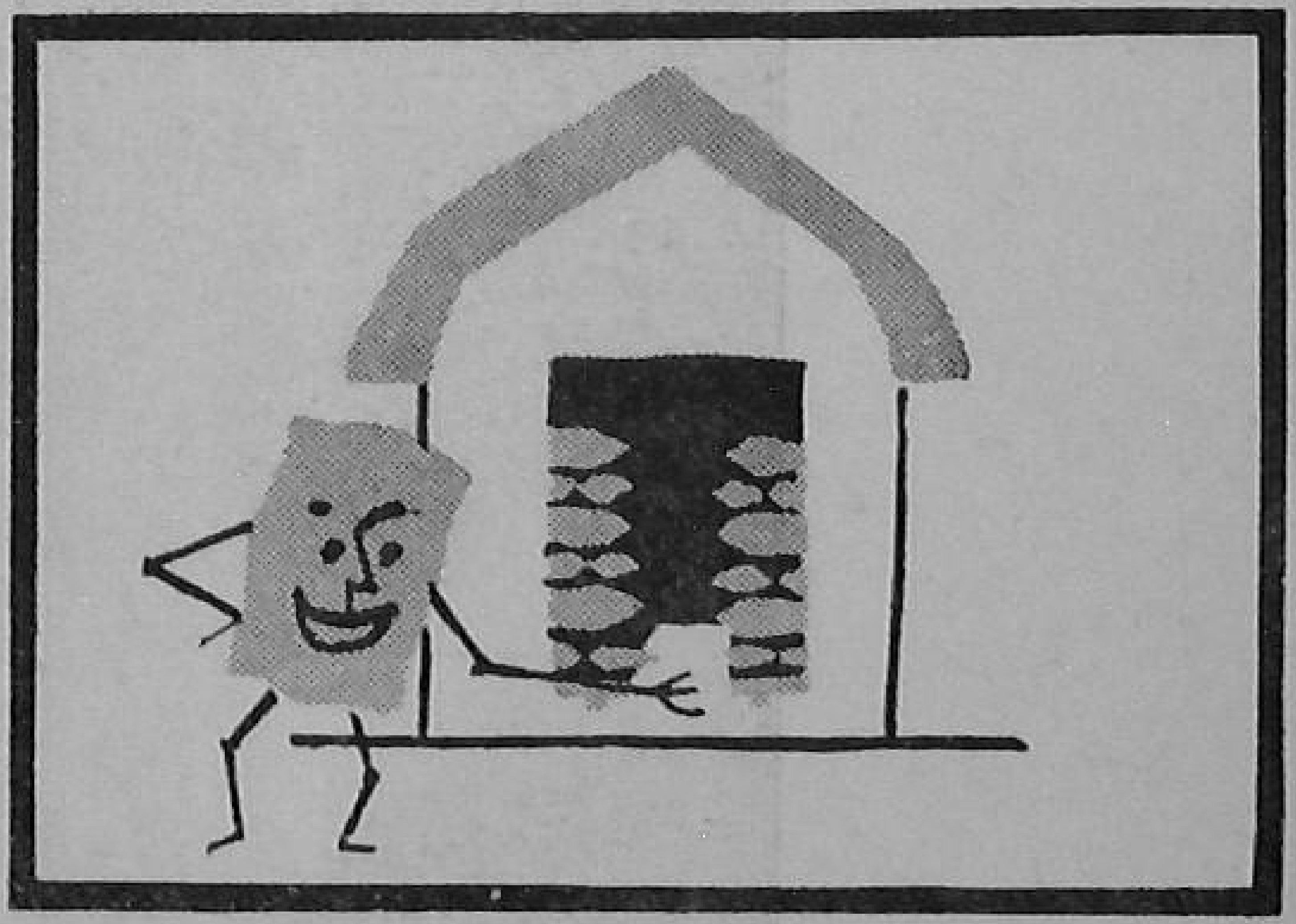
• Lay the bags crosswise. This will be the first layer. Pile the bags lengthwise over this layer. Go on piling till the stack is about eight feet high.



• But do not pile higher than eight feet. If you pile the bags too high, the bags at the bottom may set hard. The pressure on the lower bags causes the fertilizer particles to cake together.



• Give the fertilizer air-space on all sides of the stack. When this is done, your fertilizer will keep well.



• You should store the bags in such a way that these are within easy reach.

Store the fertilizer this way and it will keep fresh and good.

# DISEASES

## DECIDE YOUR POULTRY PROFITS

By S. G. IYER

EVEN when you rear poultry under the best conditions, you will have to watch out for diseases that may break out at any time. These poultry diseases many a time decide whether you make profits or incur losses in your poultry business.

Fortunately, research has now made it possible to control most poultry diseases.

Whenever you find birds suddenly start dying in large numbers, the best thing to do is to get the diseases correctly diagnosed by

Feeding the birds right ration is one good way of keeping the diseases off the poultry flock

the local veterinary officer and to take necessary steps to control the same.

The most dangerous of the contagious diseases of fowls in India are Ranikhet and fowl pox. You can get your birds inoculated for these diseases free of cost. Every chicken should be inoculated against these diseases when it is between four and eight weeks of age.

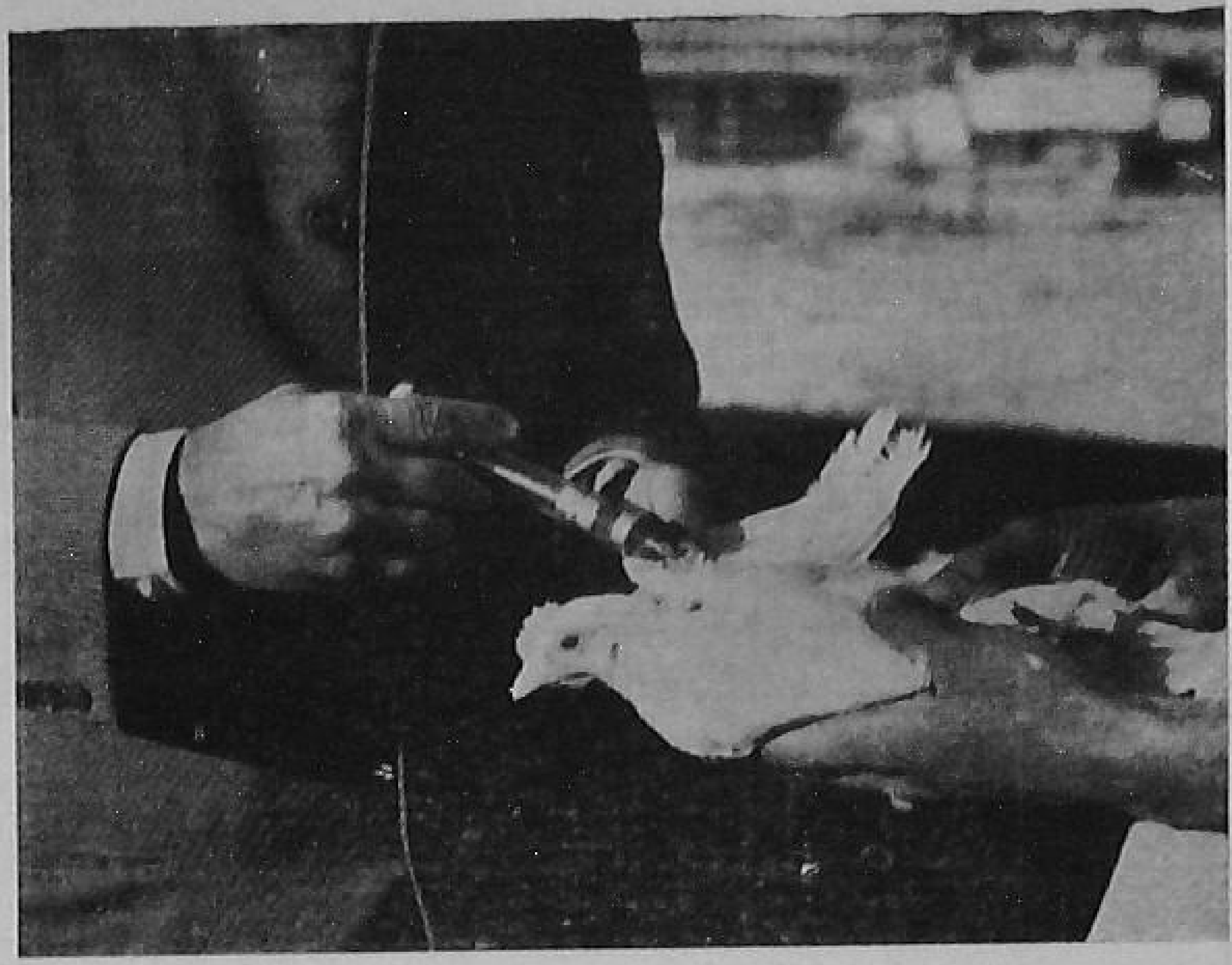
Tick fever and coccidiosis, two more bad diseases, can be treated with success if the medicine is given in time.

The poultry keeper today also finds certain respiratory diseases (often called coryza) a problem. But when the disease is correctly diagnosed, it is possible to cure it with antibiotics. You can consult the Indian Veterinary Research Institute, Izatnagar, in this regard.

For successful poultry keeping, a high quality breeding stock, proper housing, management, feeding, hygiene and the detection of diseases amongst birds and checking their spread are all important.

By proper breeding it is possible to raise fowls which can resist diseases to a great extent. You should always get a sound foundation stock from government poultry farms.

Many poultry troubles are due to defective feeding. Birds grow rapidly and need a good diet for growth and production. The poultry diet will be complete only when it is balanced and contains all the essential nutrients in a proper proportion—proteins, carbohydrates, fats, minerals and vitamins. It is advisable to obtain a ready-to-feed mash from a government poultry farm or from a good dealer who prepares this under government guidance.



Vaccination is another way of preventing contagious diseases

The feeding of green food will often prevent many deficiencies. The use of calcium will help build up the bones in the growing chick and for egg shell formation in the laying bird. Synthetic Vitamins A, B2 and D3 are now available in the market, and many poultry keepers have had excellent results by using these in the poultry feed. Also these are quite cheap and can safely be used, instead of greens, separately with other foods like shark-liver oil added to the ration.

Poultry-houses must be dry, have moderate temperature, proper ventilation, no draughts, abundance of light and adequate floor space.

However, prevention is always better than cure.

When a contagious disease breaks out, remove healthy fowls immediately and keep them separate. You should take care to see that the persons working with the infected birds do not carry the infection on their shoes, clothing and hands and thus pass it on to the healthy birds.

Flying birds can easily spread a number of contagious diseases, and, hence, keep these out as far as possible. Remove dead poultry birds immediately and bury them. Droppings of affected birds heavily infect the soil. It is, therefore, necessary that you dig up or plough the soil in poultry pens, exposing it to the sun, and apply ground lime at two tons per acre. Wherever possible leave infected land vacant for six months or put the same under crops for a season before allowing the birds on it.

Poultry droppings are a good manure, but when there is any contagious disease present all the excreta from the poultry house and run should be removed and burnt.

Have the feed-hoppers so made that the mash within it does not get mixed up with the droppings.

Water is frequently the source of a number of troubles, and hence take to the fountain method of watering fowls.

It is better to preserve the health of a flock as a whole than try to save one or two birds by treatment when they are suffering from infectious diseases.

Remember the following for disease prevention.

1. Keep all newly purchased birds isolated for two weeks.
2. Bury or burn the offals and feathers of chickens used for table.
3. Raise young stock on a clean ground, separate from the older birds.
4. Do not allow visitors to enter poultry-houses and runs.
5. Use clean feeding and watering utensils.
6. Provide adequate drainage and avoid dampness.
7. Feed your birds with the right ration.
8. Keep a watch on ticks in the poultry-house which are the worst enemy of chickens and get rid of them immediately by dusting an insecticide or by treating the houses.
9. Vaccinate all chickens against Ranikhet and fowl pox, as a routine.
10. In the case of an outbreak of an infectious disease, promptly inform the nearest veterinary hospital or the Block Development Officer and confine your birds inside the house till the doctor arrives.

"GUNTI"
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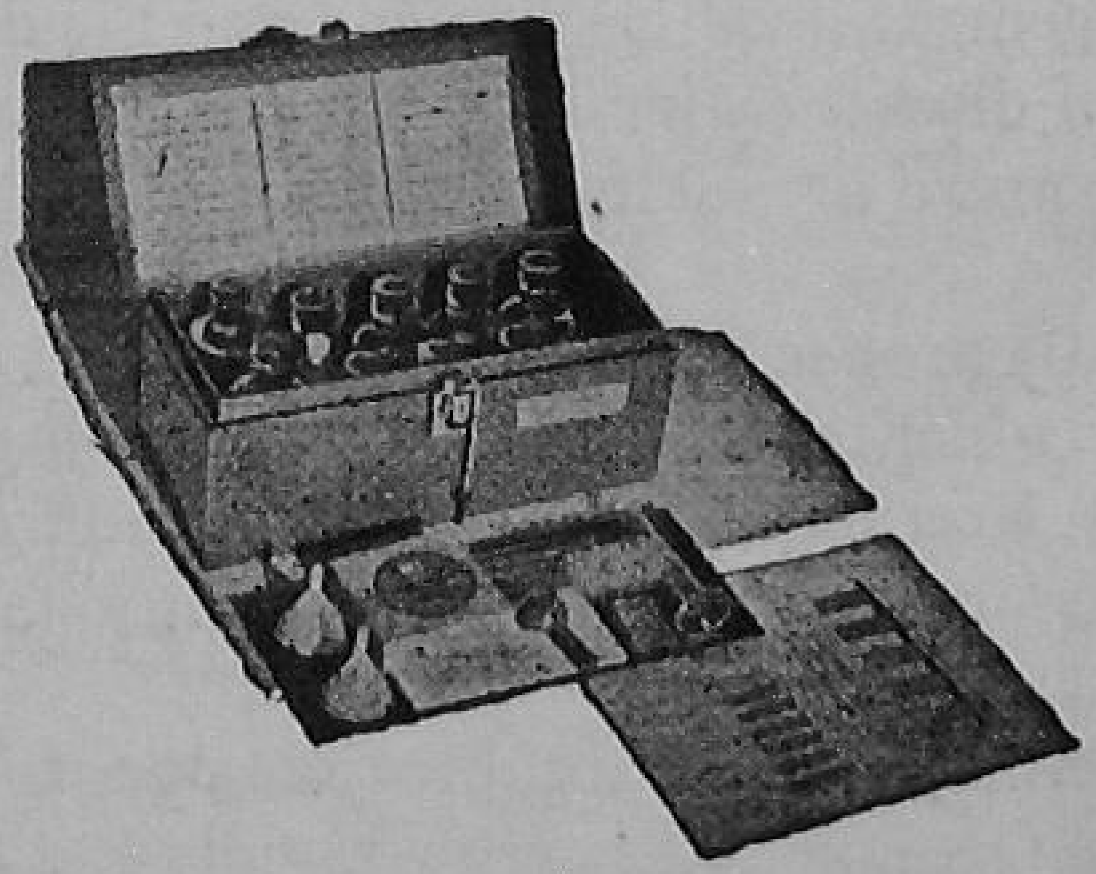

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# CONTROL THE CASTOR SEMILOOPER

AT a cost of less than 11 rupees an acre, you can control the semilooper, one of the worst pests of the castor crop.

The pest is called semilooper because it walks in loops. It is about 1½ inches long, ash grey to dark grey in colour when fully grown, and has two or three longitudinal stripes or bands on its back.

It feeds on the leaves, tender stems, blossoms and even on the tender fruits of the castor plant. When the attack is severe, it leaves behind only the skeletons of leaves. The castor semilooper generally appears in August, and continues to damage the crop till November. It does the worst damage in September-October.

Recent experiments in Hyderabad have shown that the pest can be completely controlled by using 'Endrin.' An ounce of this chemical is mixed in four gallons of water and sprayed on the crop. The first spraying is given in August, when 12 ounces of the chemical should be used per acre. This will cost Rs. 4.31. The second spraying is given after a month, using a pound of 'Endrin,' costing Rs. 6.44. With these two sprayings of Rs. 10.75 worth of the chemical per acre, you can completey control the semilooper and save the valuable castor crop.

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# PLANTING TREES THIS MONSOON ?

By L. VENKATARATNAM

DURING this rainy season, make it a point to raise trees for shade or decoration on your farm. Select these trees with care so that they may grow well and safe. Bear these points in mind in selecting the trees for your farm.

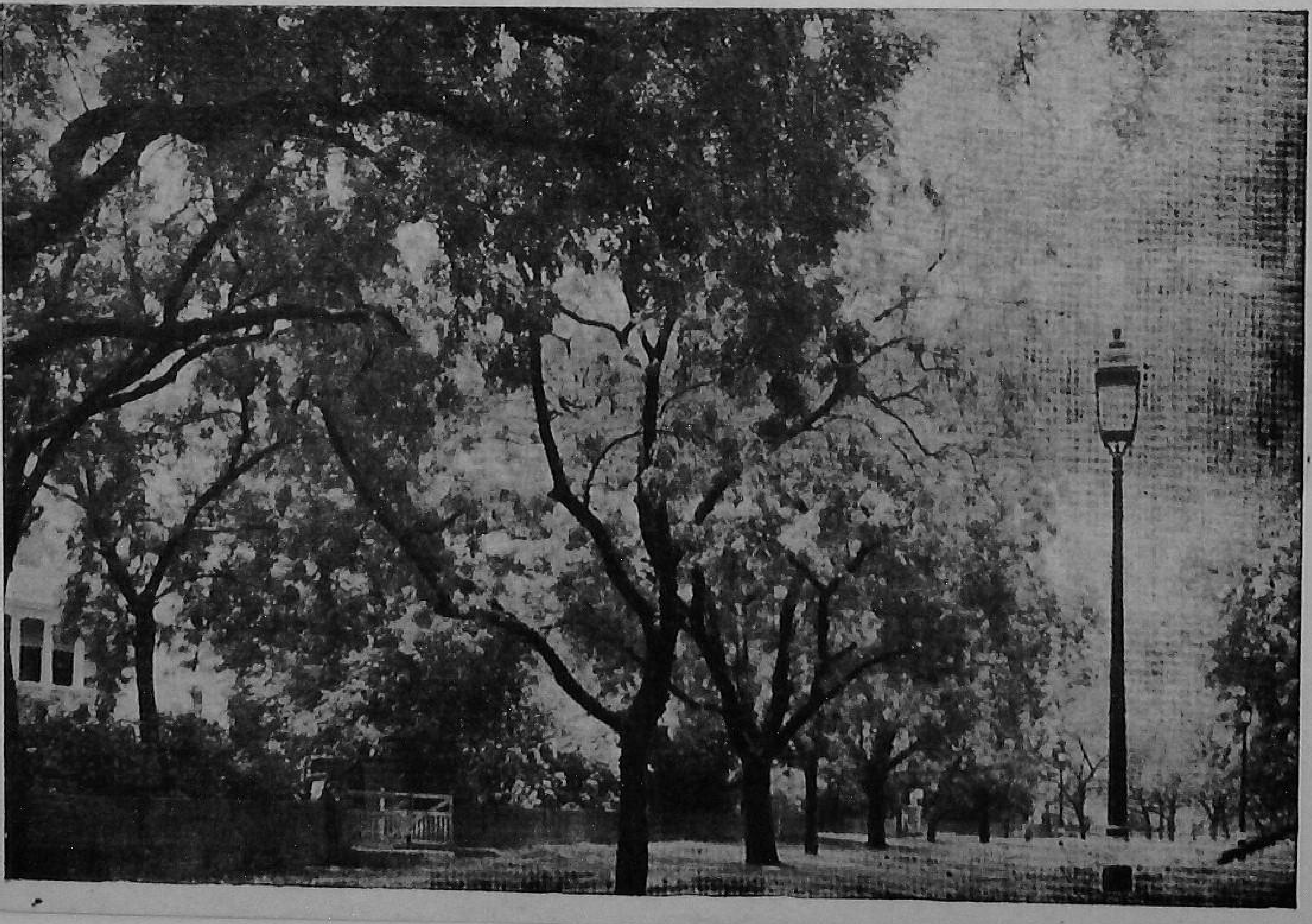
- Raise quick-growing trees which have no soft trunks easily broken by winds, dust-storms, etc.
- Select trees which are deep rooted; such trees can stand drought in summer and stagnation of water in the rainy season.
- Select trees which do not have pests and diseases attacking them. These may attack the crops in your fields too.
- Select trees that do not shed leaves completely in the year (like Gulmohar).
- Select trees which are not liked by goats or stray animals, otherwise they will eat away the foliage.

These are rather tough conditions, but there are a number of trees which fulfil many of these conditions.

Here is a list of such trees grouped together according to the height they attain when they are full-grown.

#### LOW-SPREADING TREES (10 TO 15 FEET HIGH)

The Cassias belong to this group. These are very good for planting in villages. Their leaves are not liked by goats and they



*Cassia nodosa*

*Cassia fistula (Amaltas)*

bear colourful flowers which add to the beauty of the landscape.

The cassias which can be commonly sown are *Cassia fistula* (*Amaltas*), *Cassia renigera* (Burmese cassia), *Cassia nodosa* (the Pink Mohor), *Cassia javanica* (Java cassia), and *Cassia auriculata*. *Butea frondosa* (*Palas*), and Bauhinias belonging to this group are equally good.

The seeds of all these trees have a hard coat on them, and hence soak them in boiling water at least for five minutes before sowing them in the nursery.

**MEDIUM-SPREADING TREES (20 TO 25 FEET HIGH**

The *neem* or margosa (*Melia azadiracta*) belonging to this group is commonly grown all over the country. The tree provides very good shade and is free from the stray animal nuisance. *Neem* leaf is a good green manure, and *neem* seed oil is used in industry. *Neem* cake is a very good manure too. Besides, the *neem* has many medicinal properties.

The *shisham* (*Dalbergia sissoo*) belonging to this group also provides good shade and is extensively planted in the Punjab as wind-breaks, shelter-belts, etc.

Ornamental trees in this group are *Peltoforum ferrugineum* (the rusty shield bearer) which gives beautiful golden flowers and *Polyalthia longifolia* (Asoka) and *Celophyllum inophyllum* which have decorative leaves.

**LARGE, SPREADING TREES (30 TO 40 FEET HIGH)**

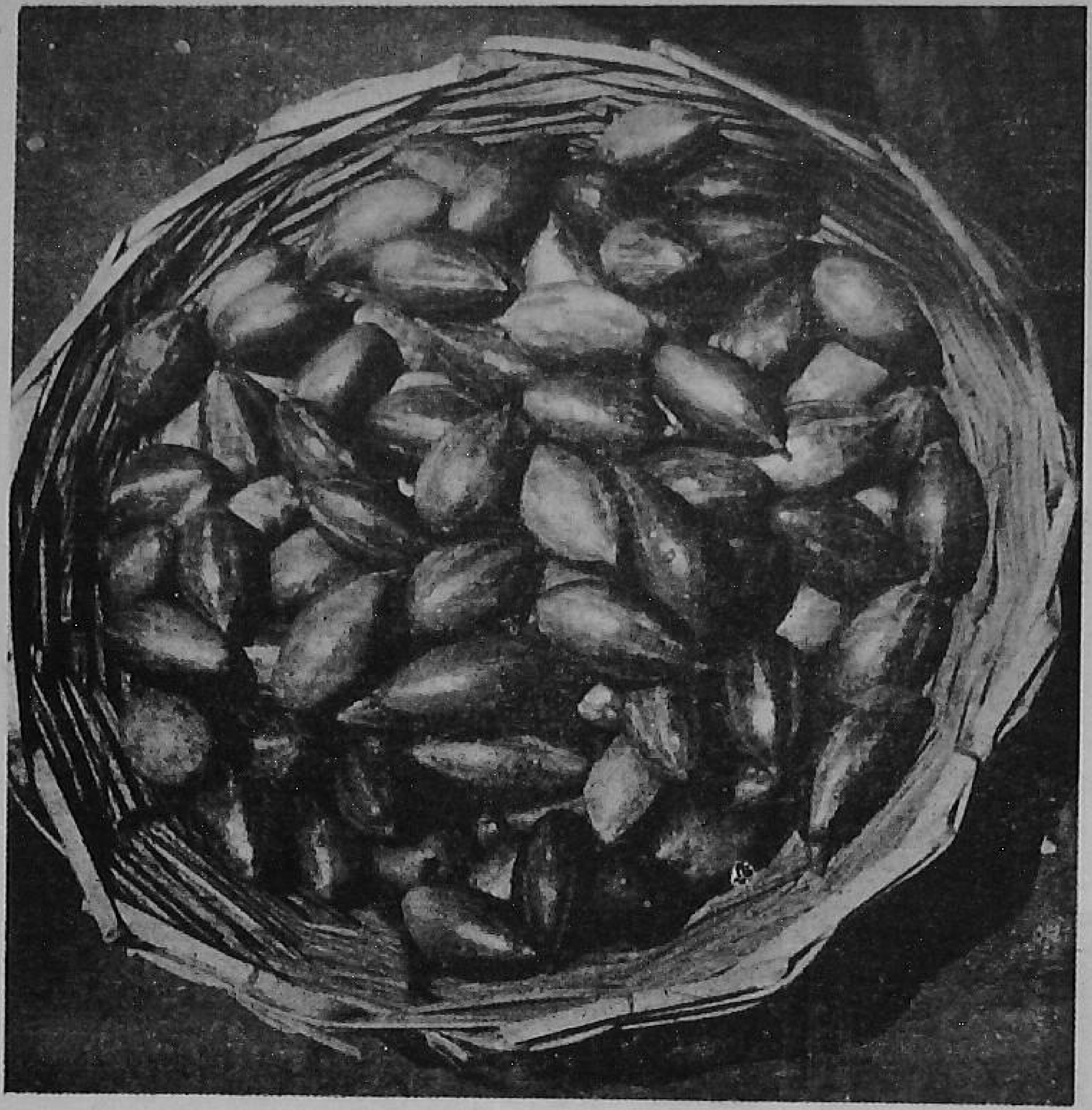
*Alstonia scholaris* is an excellent tree for large scale planting and belongs to this group. The tree provides good shade. Cattle do not touch this tree.

Tamarind is another tree which is also economically important, and should be planted on a larger scale.

The Indian cork tree (*Melingtonia hortensis*) belonging to this group does not spread, grows tall and gives beautiful white scented flowers. The rain tree (*Enterolobium saman*) grows fast to a big size on the sea coast and in humid regions.

The fountain tree (*Spathodea campanulata*) also belonging to this group grows 70 feet high and bears orange-crimson flowers. It appears very attractive when grown in clusters.

You have now known some of the good and useful trees which you can plant on your farm this rainy season.



# YOU SHOULD GROW *parwal* TOO

By R. K. SHUKLA

GROWN properly, there are few vegetables which can get you as much profit as *parwal* can, as many farmers in West Bengal, Bihar, and Uttar Pradesh can tell you.

Green *parwal* fruit has a high food value. A number of tasty dishes and pickles can be prepared from *parwal*. The fruits are also used in various medicinal preparations.

You do not need to grow *parwal* on a large scale if you cannot. Raise a few vines in your kitchen garden to provide fresh fruits for your table.

### SOIL AND CLIMATE

*Parwal* wants warm and humid conditions. A soil sandy loam in texture and having enough of organic matter gives good crops of *parwal*. The soil in which you raise the crop should be well-drained and should neither be saline nor alkaline.

### LAND PREPARATION

Apply compost at 200 maunds per acre and mix it well with the soil. Give one ploughing with a soil-turning plough; follow up with another four ploughings with the

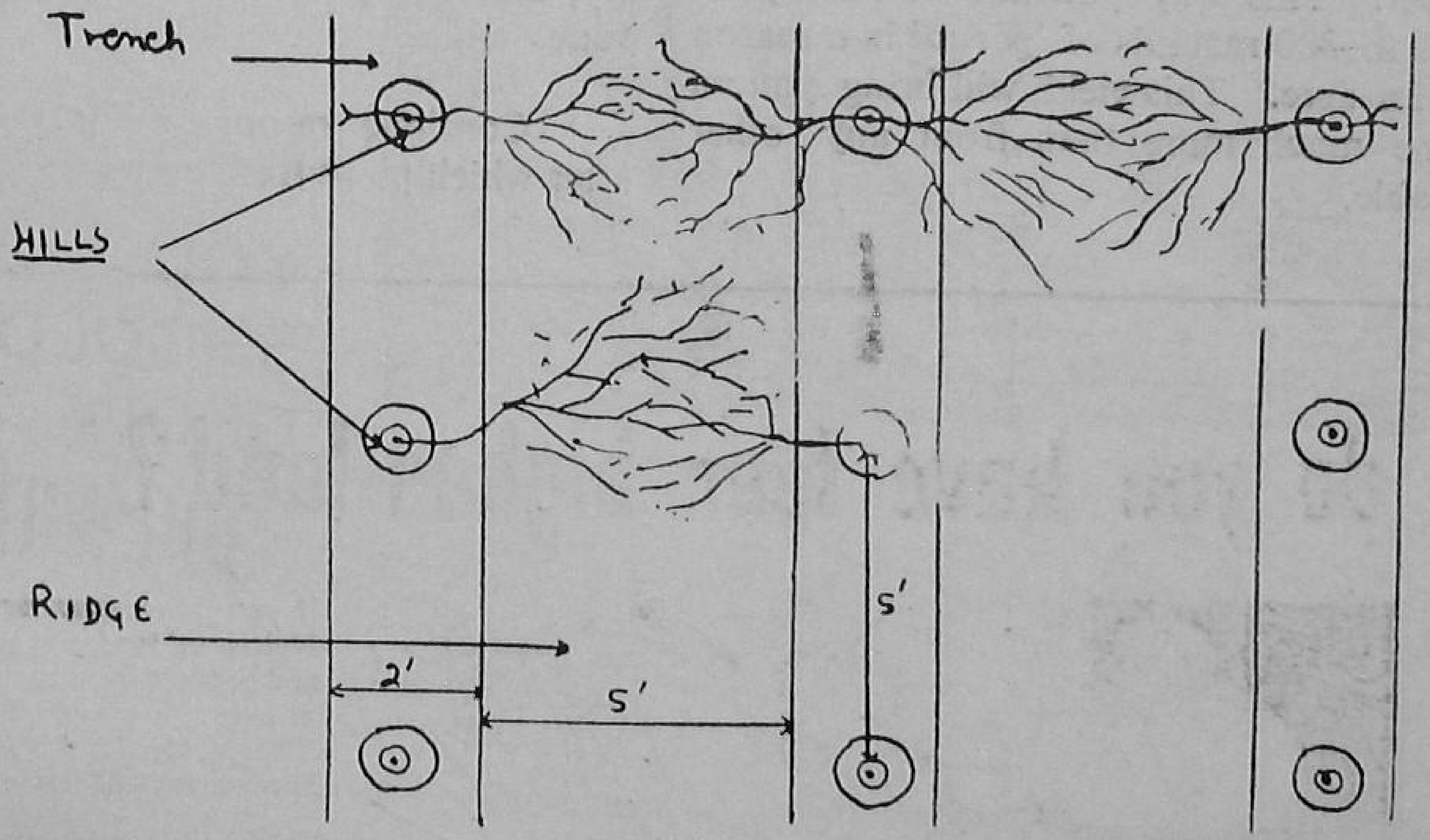
*desi* plough. Next, dig trenches two feet wide and four inche deep, and five feet apart. In the trenches, prepare hills for planting. Keep the distance between two hills at five feet. However, if you are growing *parwal* in your kitchen gardens prepare hills on plain beds, adopting a closer spacing. Apply half a pound of *neem* cake to each of the hills before planting.

### PLANTING

You can raise *parwal* from seed or from stem cuttings. But cuttings are better.

you want to take the cuttings. Remember that you need 95 per cent of the cuttings from female plants and only five per cent from the male plants.

For planting, use three to five feet long cuttings having eight to ten healthy buds in it. Roll the cuttings, leaving about six inches at one end. Plant the rolled cuttings four inches deep in the hills leaving the unrolled portion out. You will need three to five maunds of vine cutting to plant an acre.




A *parwal* plant can be either a male or a female. For good yields, there should be about 94 per cent of female plants and five per cent male plants in a garden. But if you raise from seed, it is quite likely that 50 per cent of the seed sown may turn out to be male, and naturally you will get a smaller yield. It is, therefore, safer to raise your seedlings from cuttings.

For this, mark the plants from which

August to October is the best time for planting.

### AFTER-CARE

Cuttings begin to sprout two weeks after planting. Give a light irrigation if the soil is dry. At later stages give irrigations at longer intervals. Once the vines establish, there is no need to water except during summer.

Keep the field free of weeds.

Give one ounce of superphosphate and two ounces of ammonium sulphate to each plant.

In the months of July-August and February-March, apply ten pounds of five per cent BHC (dust) to protect plants from pest attack.

#### YIELD

The vines planted in July-August will come to bear in April-May and continue till October. This way you can obtain a yield of 200 to 300 maunds of *parwal* in a season from an acre. This yield will bring you an income much more than from any other vegetable.

#### RATOONING

*Parwal*, being a perennial crop, yields fruits for several years on the same plant. But it remains dormant during winter when it sheds its leaves, when you should prune the top of the vines.

Also, dig the plot with a spade leaving two feet space around the base of the plant. Prepare hills around the base, and apply three pounds of compost and four ounces of ammonium sulphate per hill.

New flushes appear in January-February, and the plants start bearing in May-June.

Continue ratooning for three years, after which plant fresh cuttings.

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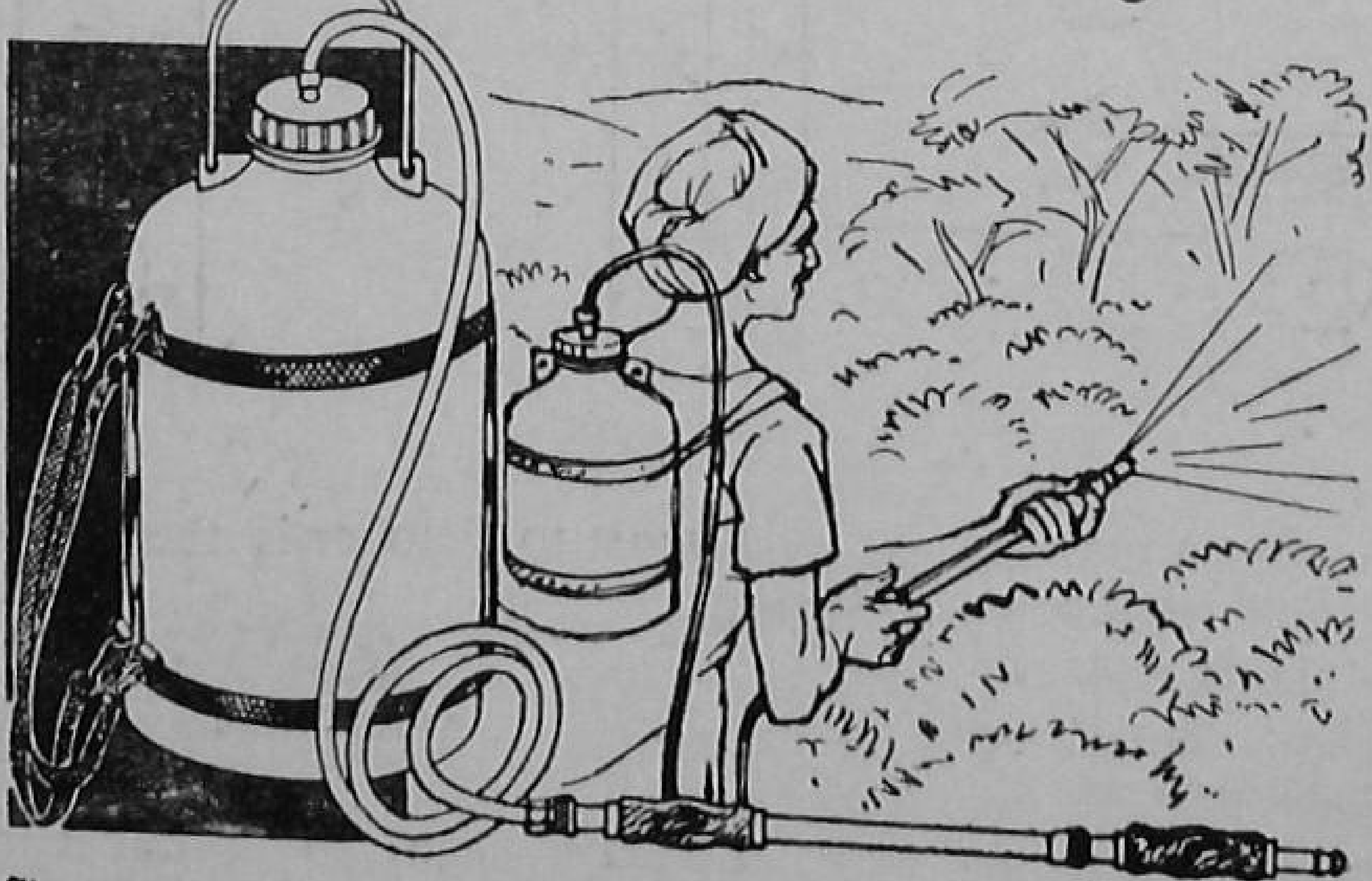
# do you have four bighas land?



If you have four or more bighas of land to cultivate and protect from the ravages of pest . . . you will find the *'Holder Harriden'* **"Junior"** Sprayer indispensable.

This cheap continuous action, double-acting hand pump fitted with a 2-ft. Lance Extension, Angle Bend, 3 different nozzles, 4.5 ft. of hose and a 2 gallon light-weight (3 lbs.) plastic container, will soon pay for itself in the form of a healthy and bountiful crop.

*The "Junior" Sprayer is one of the 'Holder Harriden' range manufactured by*

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SWC-30

TAKE out those garments, sarees, frocks, skirts—which though in good condition you thought you could not use because you or your family members long outgrew them or because they were outsized. You may also have with you garments which are too good to be thrown away. Even if such garments have one or two weak point, you can renovate and remodel them for further use.

Shrimati Kanthimathi Kumar has many such ideas. We would like our readers to share with Shrimati Kumar her many ideas of renovating old garments. Follow the correct measurements and you will have new garments which your friends will admire and compliment you for.

The first one in the series is :

# A NEW FROCK FROM AN OLD SKIRT

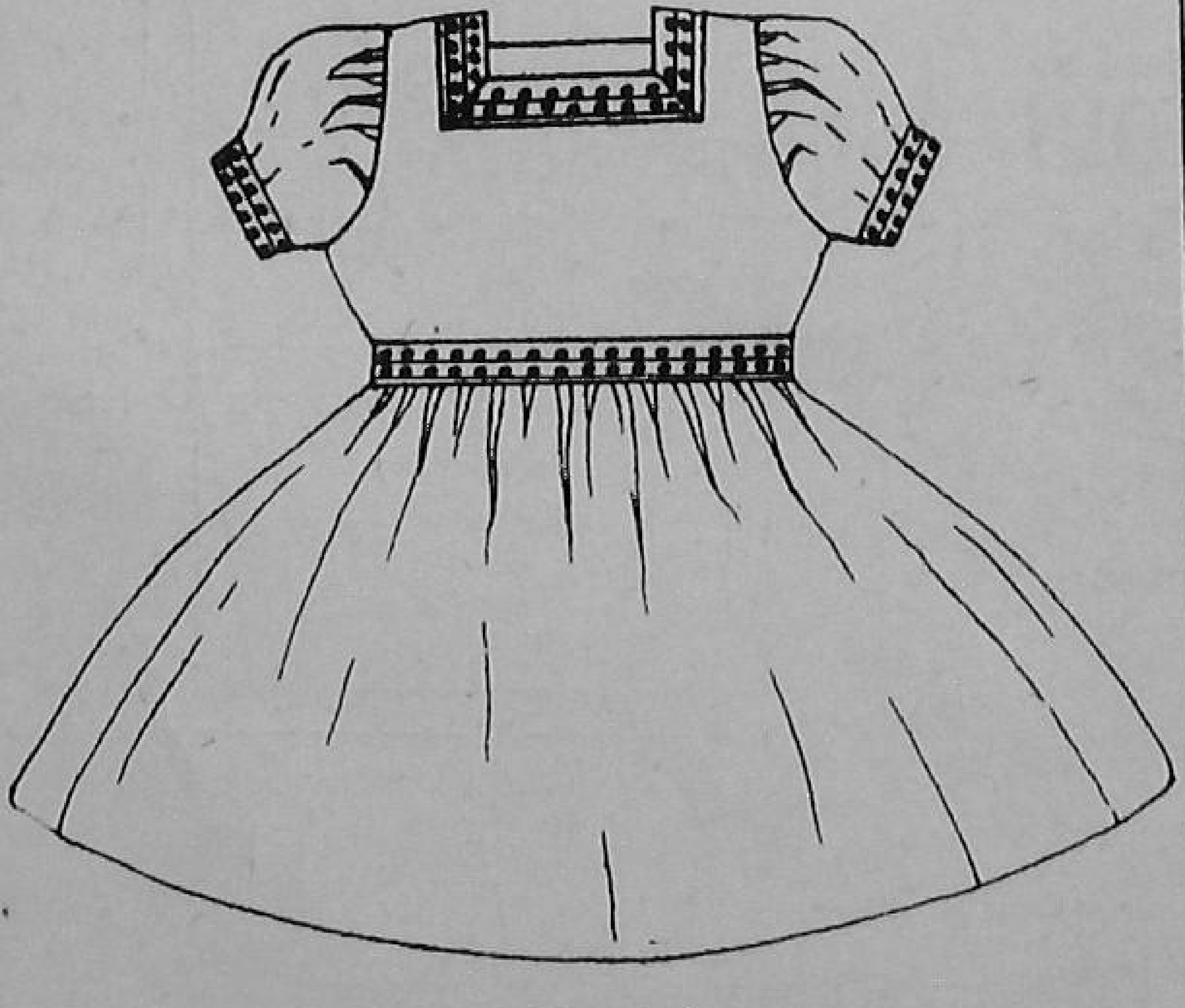


Fig. 1

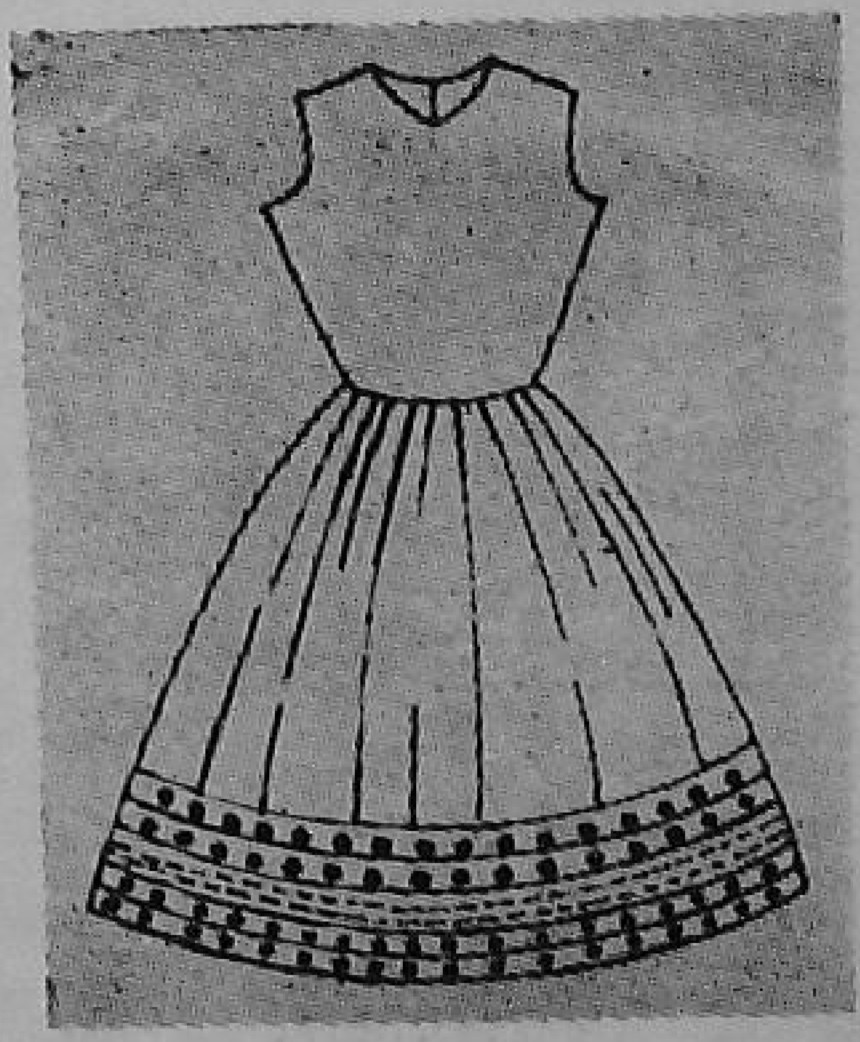


Fig. 2

You can convert an Indian skirt of a girl (whose chest measures about 22 inches) into a fashionable frock for her.

#### Measurements of the skirt

Length from waist-line to ankle 30 inches. Full width of the skirt 72 inches. Width of the border 5 inches.

#### Measurements of the frock

Length 21 inches. Waist length 9 inches. Chest 22 inches. Waist 21 inches. Shoulder width 9 inches. Sleeve length $5\frac{1}{2}$ inches. Sleeve band 8 inches.

### HOW TO MAKE THE PATTERN PIECES OF THE FROCK

*Note: Key to diagrams*

(1) Measurements are given within arrows or with the arrows pointing to the measured length. A few measurements are given with reference to alphabets.

(2) The thin line (__) denotes the edge of the paper taken for pattern-making.

(3) The dash dot line (–·–·–) is used as a guide to draft curves, etc.

(4) The thick line (__) denotes where to cut.

(5) The dotted line (. . .) denotes where to cut after the first cutting is done.

(6) Wherever the word 'fold' occurs, take double the width shown in the diagram and then fold the paper.

#### Drafting and cutting

(a) Draft the back and the front of the bodice and the sleeves according to Figures 3, 4 and 5 and cut the patterns along the thick lines.

(b) Open out the fold of the sleeves and cut along the dotted curve on one half of the sleeves only. Prepare two sleeves.

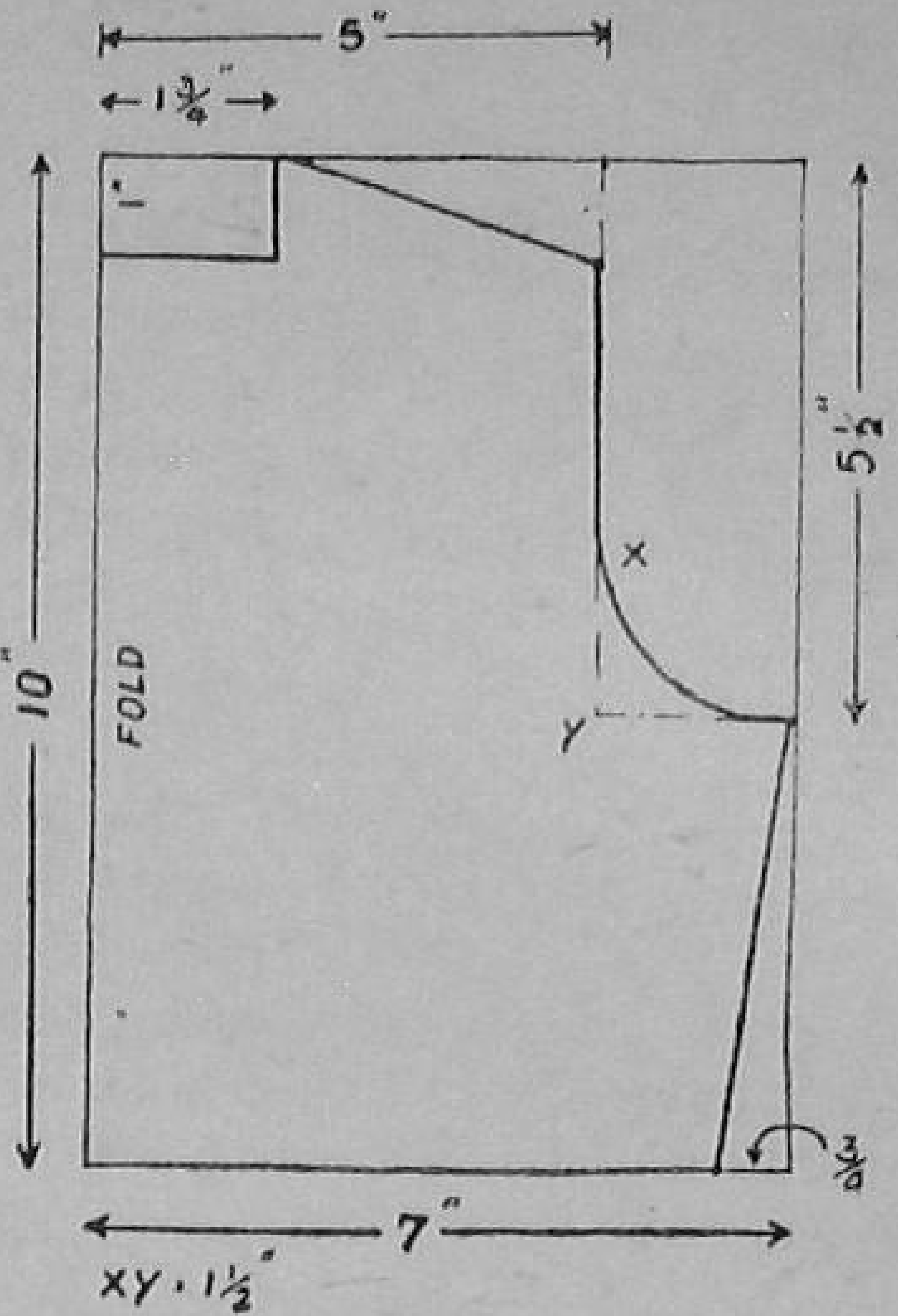



Fig. 3 (Construction of back bodice)

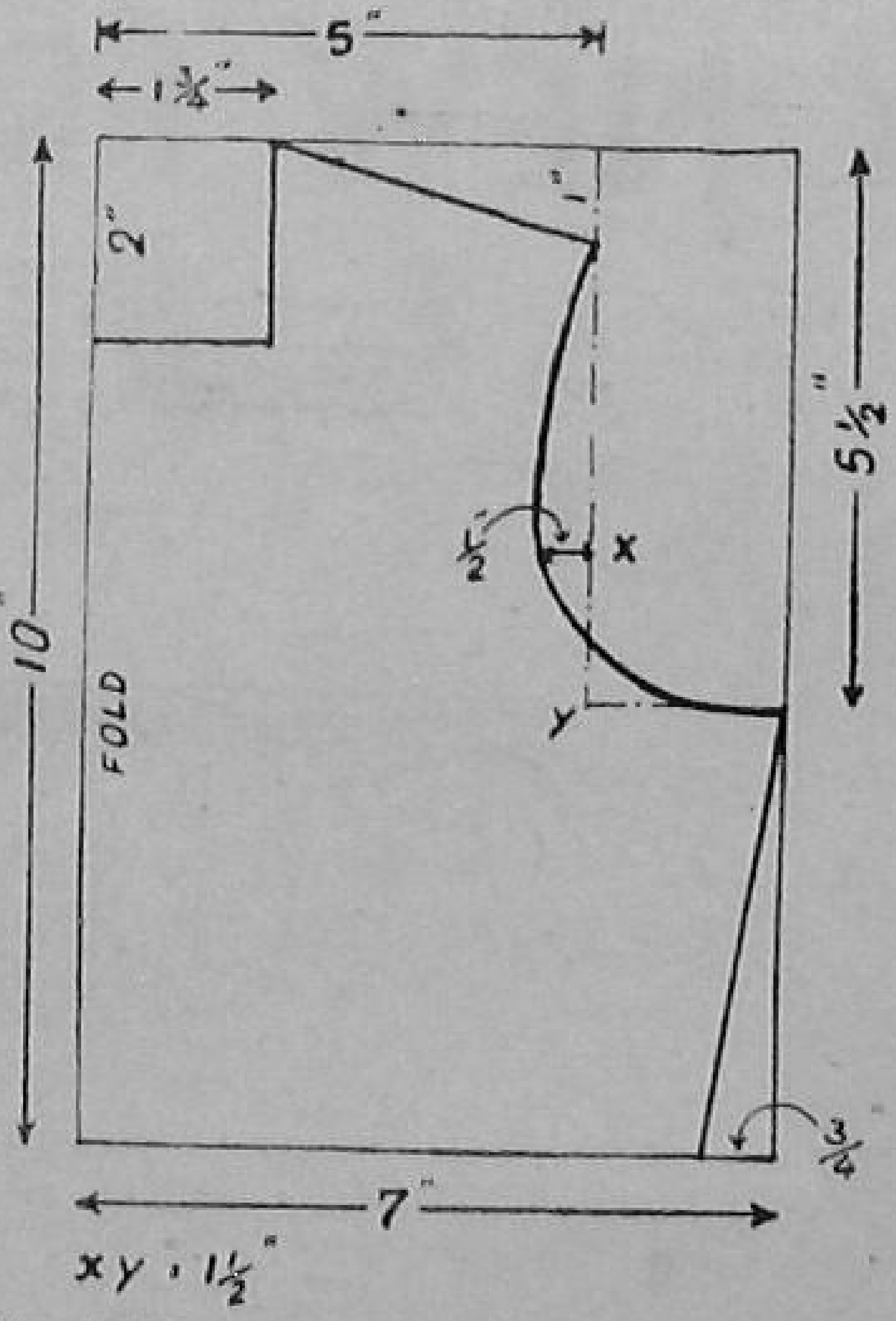



Fig. 4 (Construction of front bodice)

The portion cut deeper in the sleeve-head is to be attached to the front armhole. Therefore, note that the right sleeve is to be differentiated from the left sleeve.

(c) Cut along the central fold of the back bodice for the back opening.

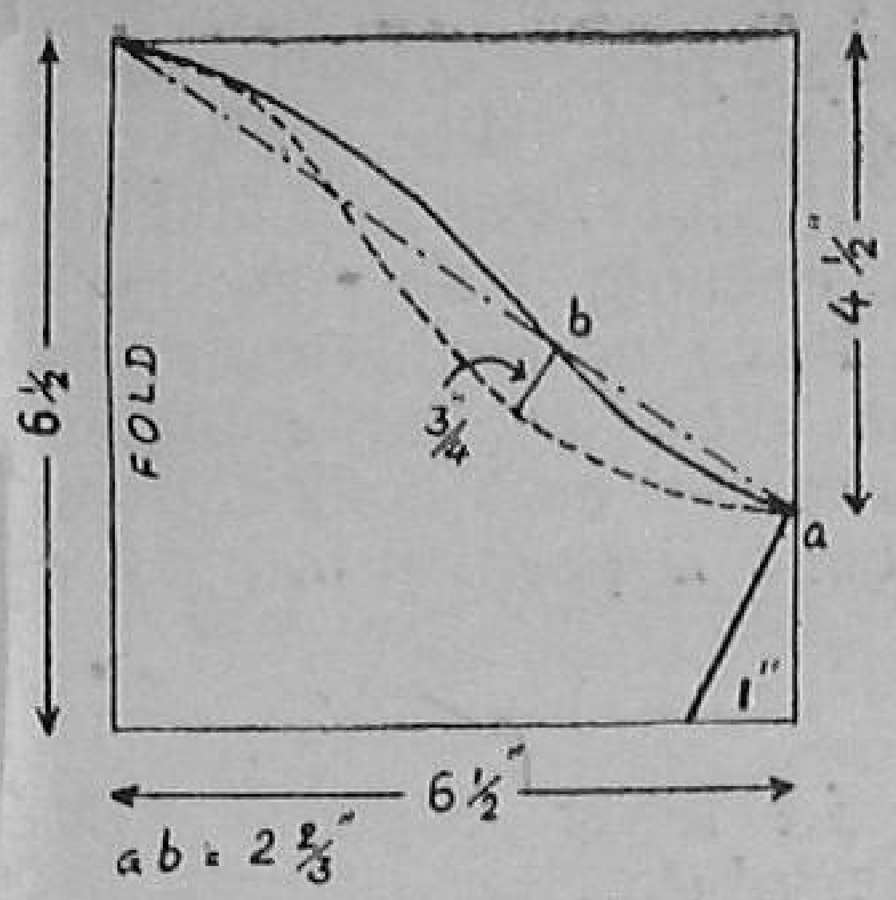



Fig. 5 (Construction of sleeves)

(d) Skirt : For the skirt, take two pieces of paper, one 14½″ wide and 29″ long for the front and the other 14½″ wide and 28″ long for the back.

(e) Sleeve-bands, belt and facing for the neck : For the sleeve-bands, cut two strips of paper, each 9″ long and 1¼″ wide. For the belt, cut a strip 23″ long and 5″ wide. For each of the front and the back necks, cut a facing of 1¼″ width exactly to the shape of the neck.

## HOW TO PREPARE THE SKIRT FOR THE LAYOUT OF THE PATTERN PIECES

Cut along the seam at the waist-line and remove the pleats. Open out the side-seam and iron the skirt flat.

## HOW TO LAY THE PATTERN PIECES ON THE SKIRT PIECE AND CUT OUT THE PATTERN

Pin the pattern pieces to the fabric as shown in Fig. 6, leaving ½″ of material over the border and cut the different pattern pieces. In the back skirt, cut a slit 2½″ long down the centre of the waist to form the continuation of the opening of the back bodice.

The facing and the band for the back opening are to be cut from the small bits of fabric left over. Canvas or long cloth may be used as interfacing for the belt to keep it stiff.

## HOW TO MAKE THE FROCK

*Note :* ½″ is allowed for ordinary seams and 1/8″ for bands, etc.

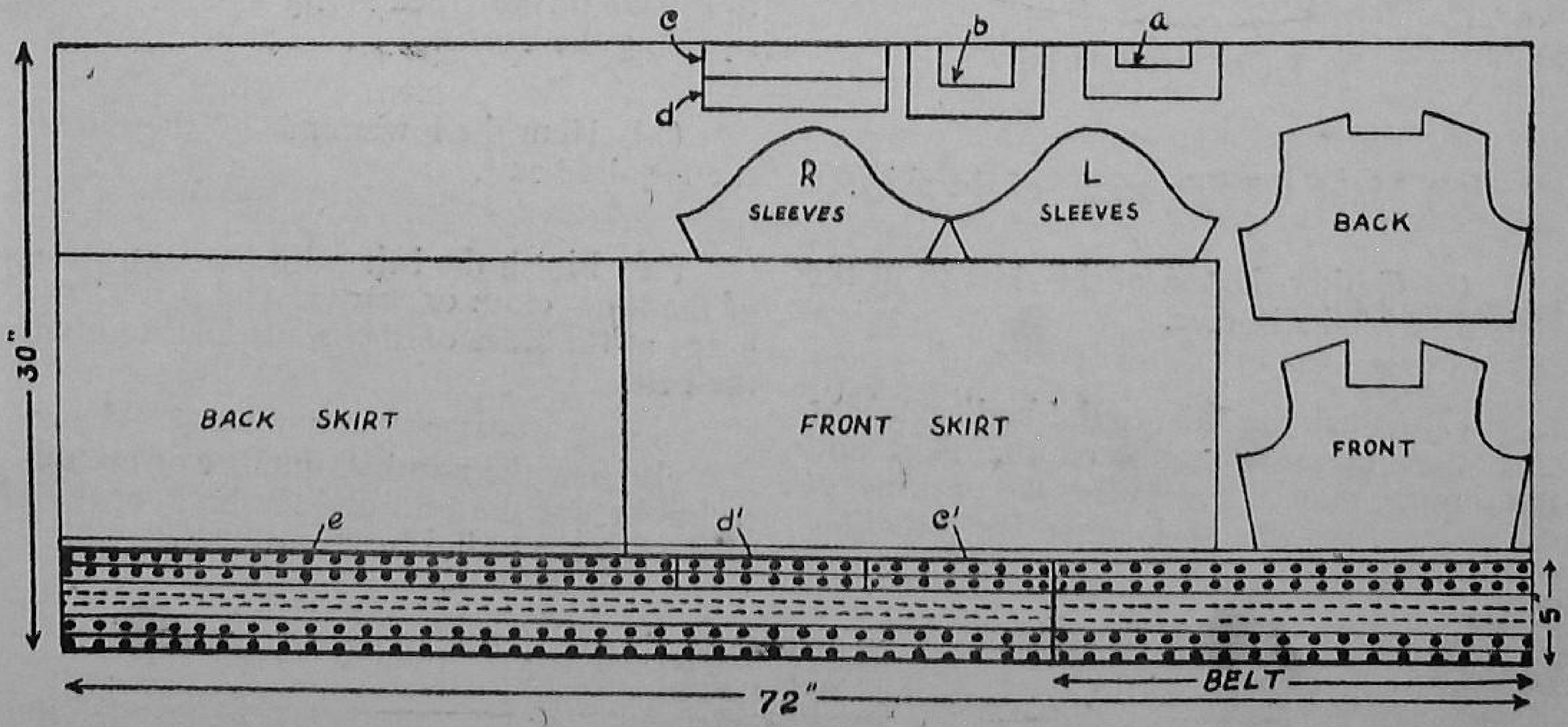
(1) Make the shoulder seams of the bodice.

(2) Join the facings of the front and the back neck and face the neck.

(3) Make the side seams of the bodice.

(4) Make two darts of ½″ width at the the back to shape the waist.

Fig. 6 (layout of the pattern pieces on the skirt piece)



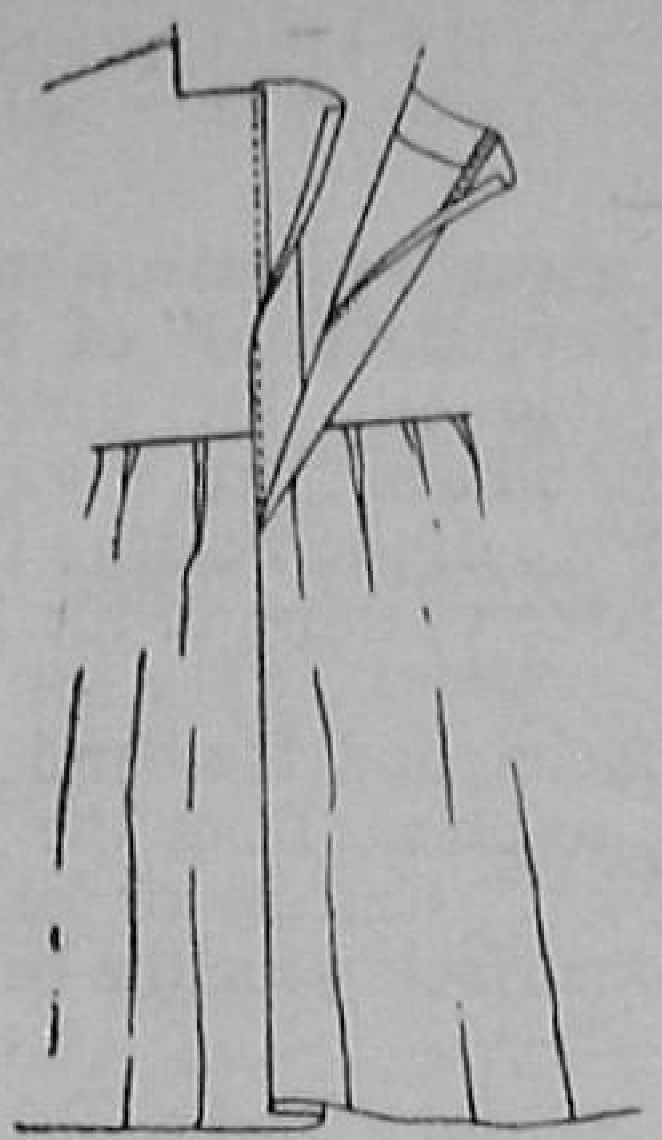


Fig. 7 (The botton band and facing of the opening placed at the back of the frock)

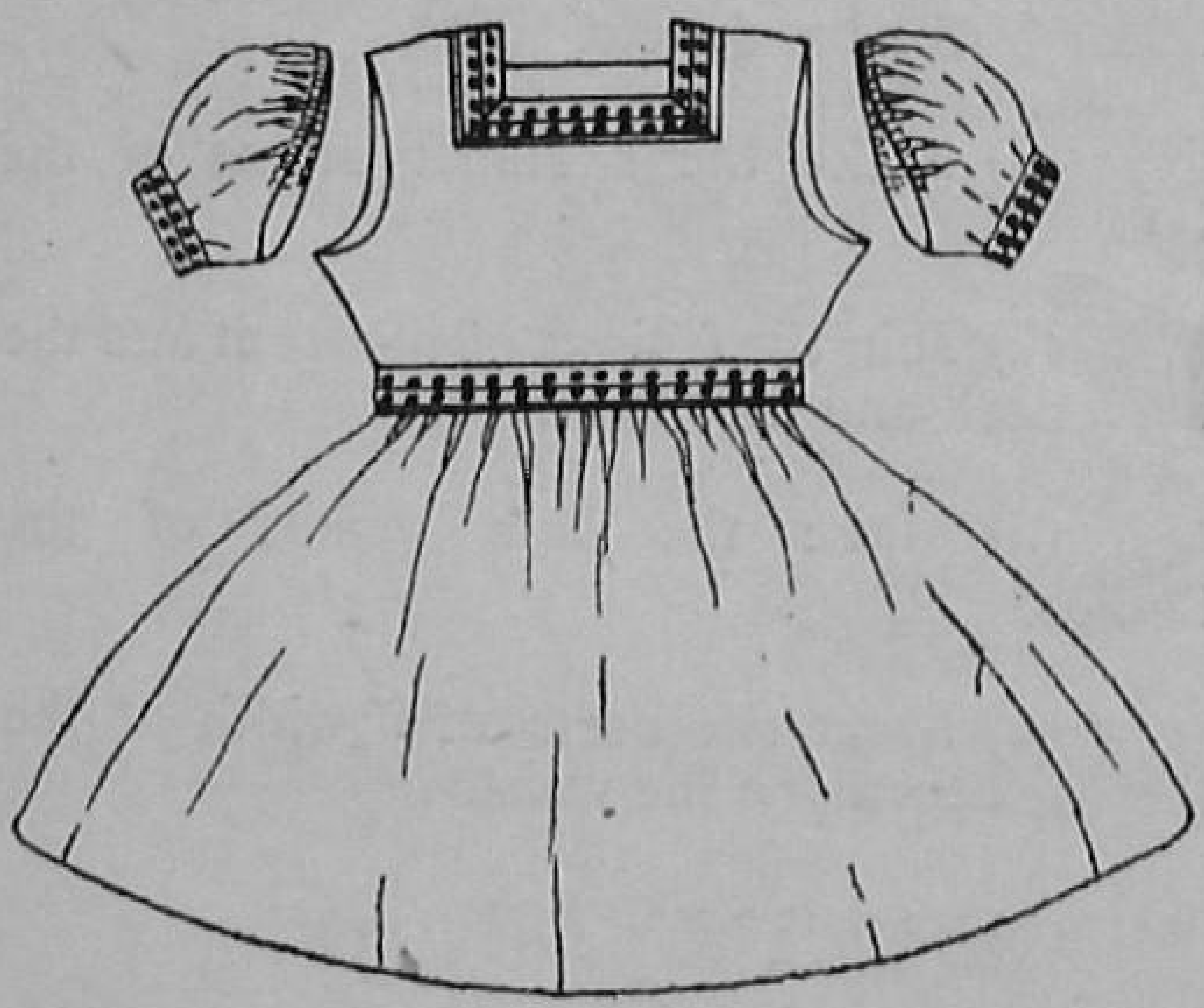


Fig. 8 (The frock pieces)

(5) Make the side seams of the skirt.

(6) Gather the top of the skirt to fit the waist-line of the bodice.

(7) Attach the skirt to the bodice, taking care that the side seams of the skirt and the bodice match. *Note that the opening at the back is from the neck down the end of the slit in back skirt.*

8. (*Follow Fig. 7*) Face the right side of the opening with a strip of cloth 1¼" wide from the neck down the skirt. Make a protruding band, 1" wide after finish at the left side of the opening from the neck down the skirt. Place the facing over the band and see that the waist-line seams of both the sections of the back bodice are in line. Secure the band in position with a few invisible stitches.

(9) Gather the lower edges of the sleeves to the required size.

(10) Make the side seams and attach the sleeve-bands so that the borders form the outer sleeve-bands.

(11) Leaving 2½" free from either end, gather the top of the sleeves to fit the armhole

(12) Attach the sleeves to the bodice of the frock so that the side seams of the bodice and the sleeves match. The portion cut deeper in the sleeve-head should come to the front of the bodice (see Fig. 8). Adjust the gathers of the sleeves-head evenly on both sides of the shoulder line (see Fig. 8)

(13) Take a straight piece of border, 1¼" wide and long enough to go round the neck allowing for turnings. Attach this to the right side of the frock along the neck edge, squaring the corners.

(14) Hem the lower end of the skirt to the required size.

(15) Finish the belt with the interfacing of the long cloth or canvas and make two loops at the sides of the waist-line to insert the belt.

(16) Sew the required number of buttons or hooks for the belt and the back opening of the frock and finish the garment.

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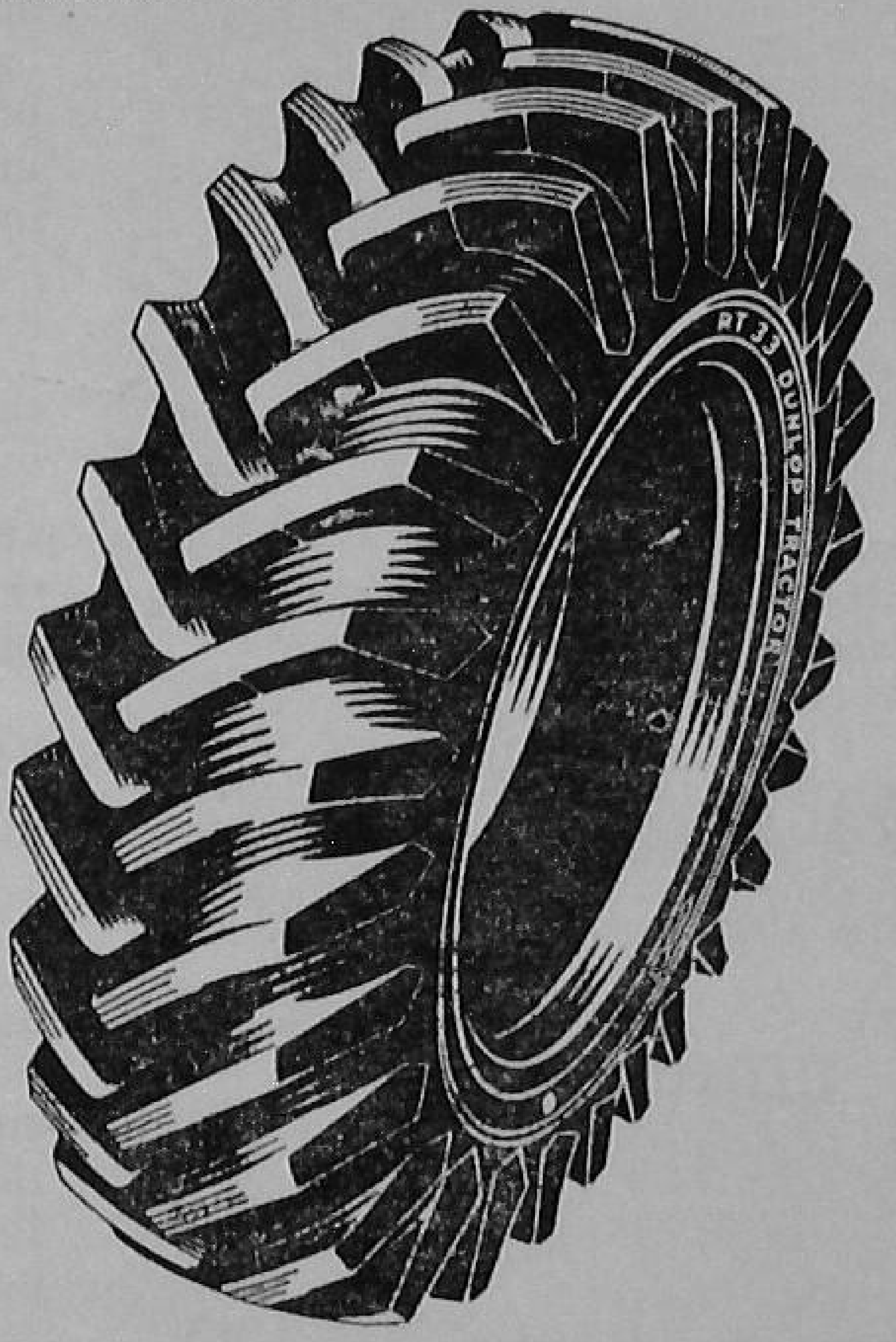


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And on your trailer, fit Dunlop trailer tyres.

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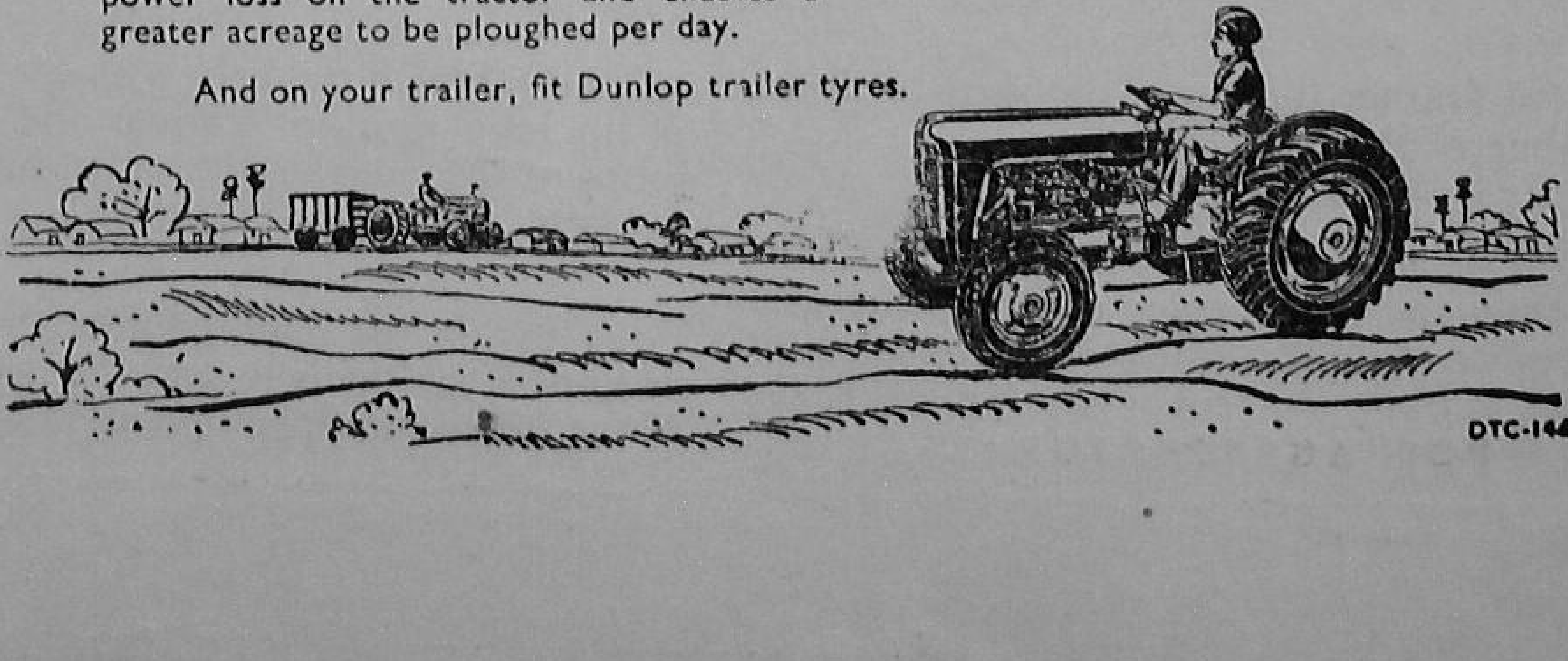

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